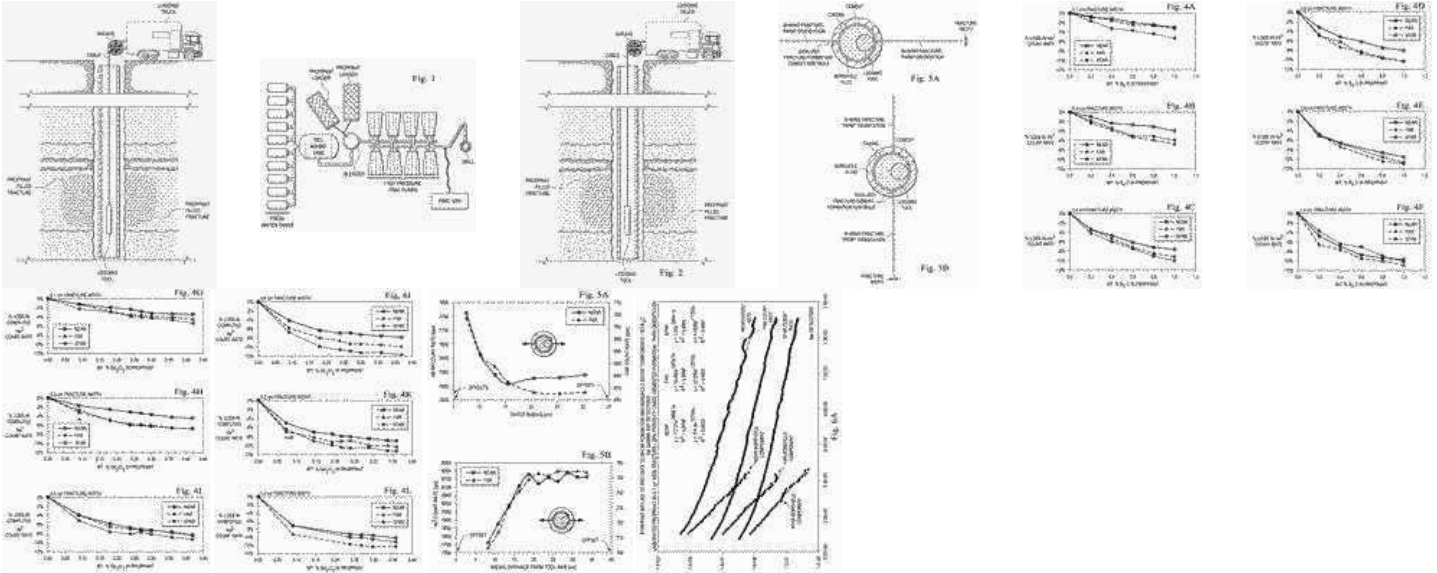
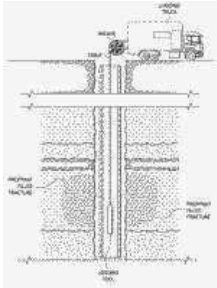


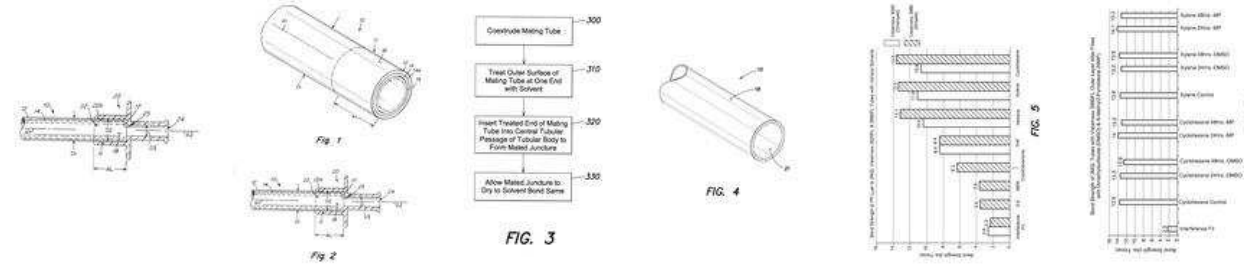
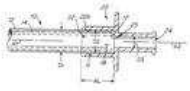
#	Título	Número de publicación	1st App. date	Solicitante / cesionario	1st Publ. fecha	Publ. fecha
1.	Métodos de identificación alto neutrón capturar sección de agente de sostén dopado cruz en las fracturas inducidas formación subterránea	US2009210161	2009-01-22	PROTECCIÓN DE ACTIVOS PRODUCTOS CARBO CERAMICS * FALCON TECHNOLOGIES & SERVICES STRATAGEN	2009-08-20	2009-08-20

Los métodos para determinar las ubicaciones / alturas de las fracturas en una formación subterránea utilizan un registro posterior a la fractura obtenido con una compensación **neutrón** o pulsadoherramienta de registro de **neutrones** . Utilizando relaciones predeterminadas entre las tasas de recuento de herramientas y las proporciones de frecuencia de recuento cercanas / lejanas asociadas, los métodos detectan la presencia de apuntalante que contiene**alta térmicaneutrón capturar el** material de la sección transversal, eliminando sustancialmente la incertidumbre en la determinación del apuntalante resultante de los cambios en el índice de hidrógeno de la formación. En un intervalo de un pozo con condiciones de perforación y formación dadas, y que no contiene apuntalante, se desarrolla una relación entre la tasa de conteo del detector y la relación de cerca / lejos. Esta relación se utiliza para calcular la tasa de recuento a partir de la relación en intervalos del pocillo que posiblemente contiene apuntalante y que tienen condiciones de formación y perforación similares. La tasa de recuento calculada a partir de la relación se compara con la tasa de recuento de detector observada, con apuntalante indicado por supresión en la tasa de recuento observada en relación con la tasa de recuento calculada a partir de la relación.

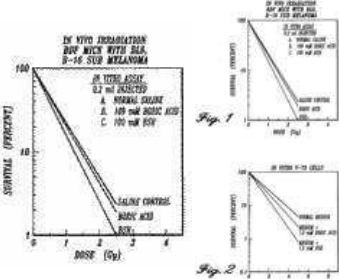
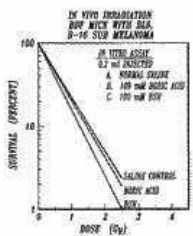


2.	Tubos extruibles y accesorios con solvente para el suministro de fluidos medicinales	US2016030728	2014-07-31	NATVAR HOLDINGS ESPECIALIDADES Y TECNOLOGÍAS PLÁSTICAS RTI INTERNATIONAL * TECHNIQUE PLEX TEKNI PLEX TRI SEAL HOLDINGS	2016-02-04	2016-02-04
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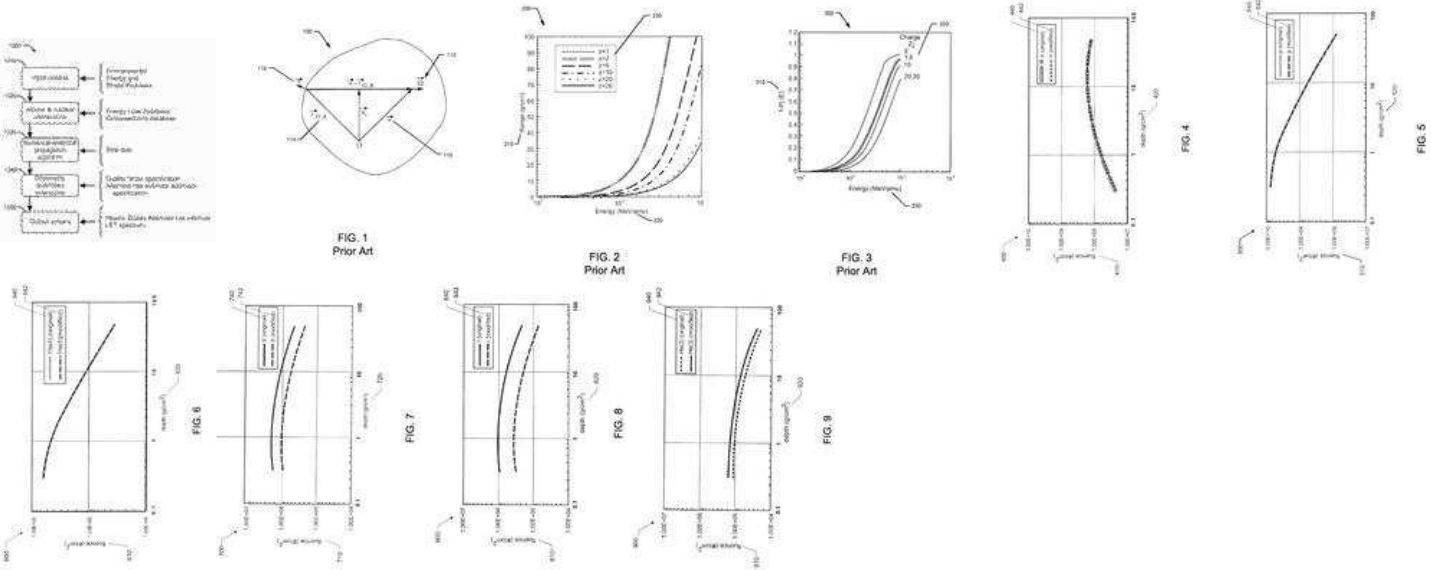
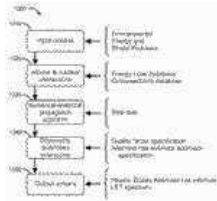
Conjunto y método de fabricación de un conjunto que incluye un tubo polimérico extruido y un cuerpo de polímero tubular prefabricado (accesorio), incluyendo el método los pasos de: extruir una superficie tubular externa de un material de elastómero termoplástico basado en propileno (PBE); tratar la superficie externa a lo largo de una longitud axial seleccionada en un extremo del tubo con un disolvente; insertar el extremo tratado en un conducto tubular hueco de un cuerpo tubular prefabricado que tiene una pared de paso interior de un material basado en polipropileno; y permitir que la unión acoplada se seque de manera tal que el solvente de la superficie externa tratada se una a la pared interna. El tubo es preferiblemente un tubo coextruido que tiene una capa más interna de un material olefínico basado en etileno termoplástico. La tubería y el accesorio superan los problemas de la técnica anterior de agrietamiento por tensión,



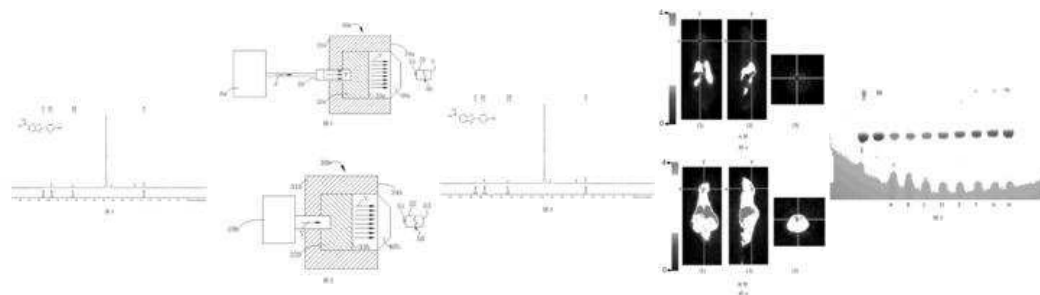
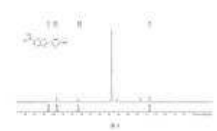
Rápido la terapia de **neutrones** se mejora significativamente irradiando células diana, ya sea in vitro o in vivo con neutrones rápidos en presencia de boro **neutrón** agente de **captura** que tiene una pluralidad, y preferiblemente al menos nueve, de $<10>$ átomos de B por molécula del agente. En otros aspectos, las células tumorales se tratan in vivo administrando a un animal humano o no humano un boro **neutrón** agente de **captura** que tiene al menos nueve $<10>$ átomos de B por molécula del agente en una cantidad efectiva para asociar el boro **neutrón** **capturar** el agente con las células tumorales y luego irradiar las células tumorales con neutrones rápidos. Boro adecuado **neutrón** los agentes de **captura** pueden basarse en derivados de aniones de borano poliedro, en derivados que comprenden dos jaulas de aniones de borano poliédrico unidos para formar una estructura que comprende 20 átomos de boro, en carboranos fenólicos poliédricos tales como compuestos de las fórmulas closo-C₂Bn-2Hn, closo-CBn-1Hn <->, o nido-C₂Bn-3Hn <->, en péptidos oligoméricos construidos a partir de alfa-aminoácidos ricos en boro, o en oligofosfatos enriquecidos en boro.



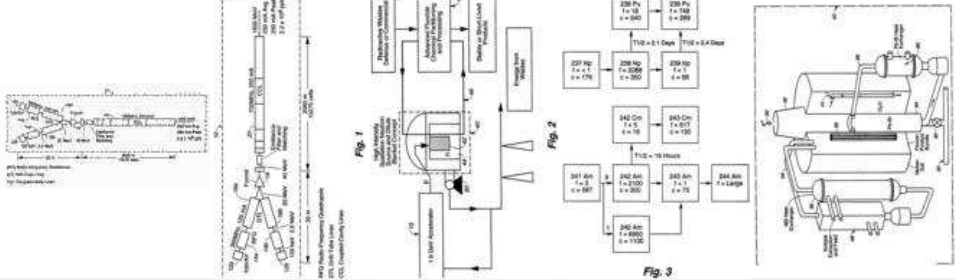
Un aparato, método y dispositivo de almacenamiento de programas para determinar **alta** energíatransporte de **neutrones** / iones a un objetivo de interés. Los límites se definen para el cálculo de una **alta** energíatransporte de **neutrones** / iones a un objetivo de interés; **alta** energíatransporte de **neutrones** / iones al objetivo de interés se calcula utilizando procedimientos numéricos seleccionados para reducir el error de truncamiento local incluyendo términos de orden superior y para permitir el control absoluto del error propagado asegurando que el error de truncamiento es de tercer orden en el tamaño del paso y usando procedimientos de escalado para flujo términos de acoplamiento modificados para mejorar los resultados calculados al agregar un factor de escala a los términos que describen **producción** de partículas j a partir de colisiones de partículas k; y el calculado **alta** energíaEl transporte de **neutrones** / iones se proporciona a los módulos de modelado para controlar una dosis de radiación efectiva en el objetivo de interés.



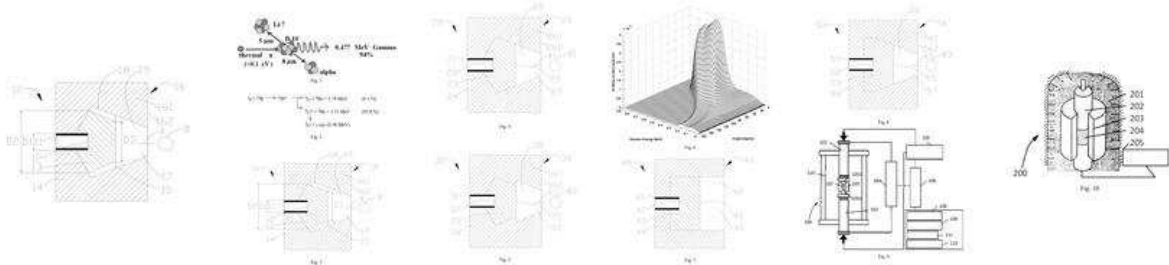
A **neutrón** sistema de terapia de **captura** capaz de eliminar una proteína β amiloide. Dicho sistema comprende un **neutrón** dispositivo de terapia de **captura** y un compuesto que tiene un núcleo con un **captura** de sección transversal para una térmica **neutrón** y es capaz de unirse específicamente con una proteína β amiloide. Los **neutrón** dispositivo de terapia de **captura** comprende una fuente de **neutrones**, un cuerpo que forma el haz y un colimador. Los neutrones lanzados por ella fuente de **neutrones** pasa a través del cuerpo que forma el haz y se ralentiza en un haz de **neutrones** con energía dentro de un cierto rango. Los el haz de **neutrones** irradia el compuesto, y la energía generada por la reacción del mismo es capaz de destruir la estructura de la proteína β amiloide. Los **neutrón** el sistema de terapia de **captura** puede eliminar específicamente una proteína β amiloide y reducir el daño a los tejidos que rodean la proteína β amiloide.



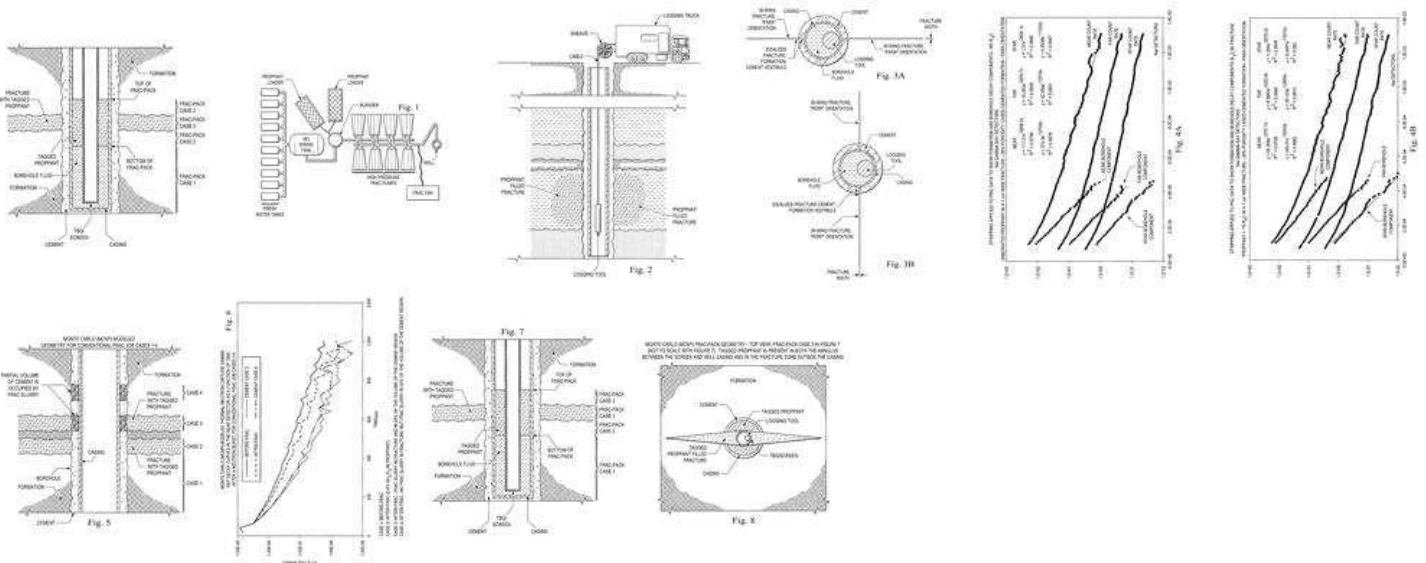
Aparato para la transmutación nuclear y el poder producción utilizando una intensa térmica generada por aceleradorflujo de neutrones .Alta temperaturaFlujos de neutrones generados por la acción de unEl acelerador de protones de alta potencia en un objetivo de espalación permite la combustión eficiente de residuos nucleares de actínidos superiores mediante un proceso de dos pasos. Además, la combustión rápida de residuos de productos de fisión para nucleidos que tienen una pequeña temperaturasecciones transversales de neutrones , y la practicidad de los pequeños inventarios de materiales mientras se logra un rendimiento significativo derivado del empleo de talesaltos flujos. Se abordan varios problemas de tecnología nuclear, incluidos 1. la energía nuclearproducción sin una corriente de desechos que requiera almacenamiento en un periodo de tiempo geológico, 2. agotamiento de la defensa y desechos nucleares comerciales, y 3. laproducción de material nuclear de defensa. El aparato incluye un acelerador, un objetivo paraneutrón producción rodeada por una región de manta para la transmutación, una turbina de energía eléctricaproducción y una instalación de procesamiento químico. En todas las aplicaciones, la potencia del acelerador puede generarse internamente a partir de la fisión y el desperdicio producido de ese modo se transmuta internamente, de modo que la gestión de los residuos puede no ser necesaria más allá de la vida humana.



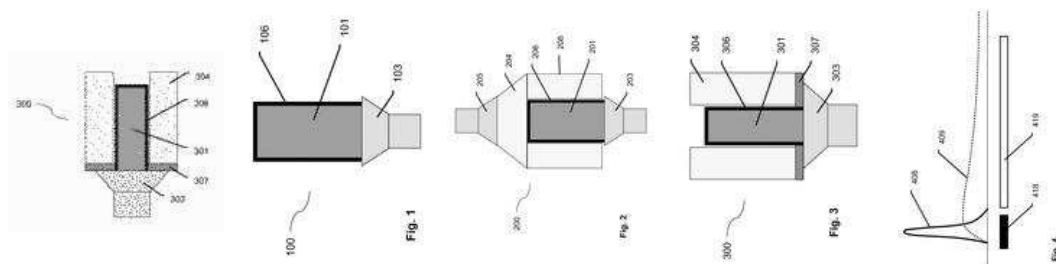
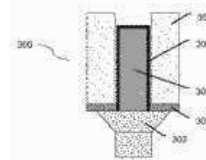
Se proporciona un cuerpo de conformación del rayo para neutrón terapia de captura , que comprende una entrada de haz, un material objetivo, un retardador adyacente al material objetivo, un reflector que rodea el retardador, un dispositivo térmiconeutron absorber adjacent to the retarder, a radiation shield provided inside the beam shaping body and a beam exit, wherein the target material and a proton beam incident from the beam inlet undergo a nuclear reaction to produce neutrons, the neutrons form a neutron beam defining a main axis, and the neutrons produced from the target material are retarded by the retarder to an epithermal neutron energy range; wherein the material of the retarder is made of MgF 2 or a mixture containing MgF 2 and 6 LiF accounting for 0.1-5% in percentage by weight of the MgF 2 , which is subjected to a powder sintering process using a powder sintering device so as to change a powder or a powder compact into blocks, the reflector guides neutrons deviating from the main axis back to the main axis so as to improve the intensity of the epithermal neutron beam, the thermal neutron absorber is used for absorbing thermal neutrons so as to avoid overdose in superficial normal tissue during a therapy, and the radiation shield is used for shielding leaking neutrons and photons so as to reduce the dose of normal tissues in non-radiation areas.



Methods are provided for identifying the location and height of induced subterranean formation fractures and the presence of any associated frac-pack or gravel pack material in the vicinity of the borehole using pulsed neutron capture (PNC) logging tools. The proppant/sand used in the fracturing and packing processes is tagged with a thermal neutron absorbing material. When proppant is present, increases in detected PNC formation and/or borehole component cross-sections, combined with decreases in measured count rates, are used to determine the location of the formation fractures and the presence and percent fill of pack material in the borehole region. Changes in measured formation cross-sections relative to changes in other PNC parameters provide a relative indication of the proppant in fractures compared to that in the borehole region

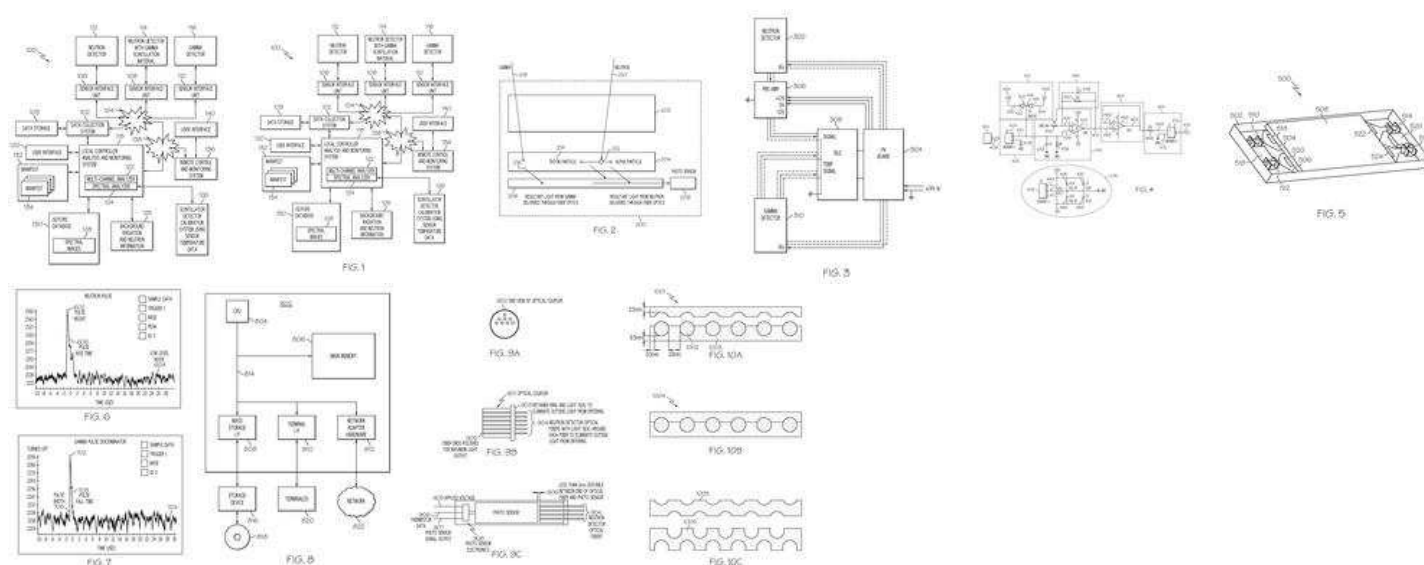
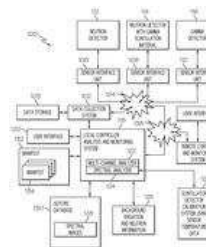


The invention refers to an apparatus for detecting **neutron** radiation, preferably thermal neutrons, comprising a gamma ray scintillator, said scintillator comprising an inorganic material with an attenuation length L_g of less than 10 cm, preferably less than 5 cm for gamma rays of 5 MeV energy in order to provide for **high** gamma ray stopping power for energetic gamma rays within the gamma ray scintillator, the gamma ray scintillator further comprising components with a product of **neutron capture** cross section and concentration leading to an absorption length L_n for thermal neutrons which is larger than 0.5 cm but smaller than five times the attenuation length L_g , preferably smaller than two times the attenuation length L_g for 5 MeV gammas in the said scintillator, the **neutron** absorbing components of the gamma ray scintillator releasing the energy deployed in the excited nuclei after **neutron capture** mainly via gamma radiation, the gamma ray scintillator having a diameter or edge length of at least 50% of L_g , preferably of at least L_g , in order to absorb an essential part of the gamma ray energy released after **neutron capture** in the scintillator, the apparatus further comprising a light detector, optically coupled to the gamma ray scintillator in order to detect the amount of light in the gamma ray scintillator, the apparatus further comprising an evaluation device coupled to the light detector, said device being able to determine the amount of light, detected by the light detector for one scintillation event, that amount being in a known relation to the energy deployed by gamma radiation in the gamma ray scintillator, where the evaluation device is configured to classify detected radiation as neutrons when the measured total gamma energy E_{sum} is above 2,614 MeV.

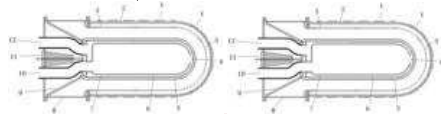
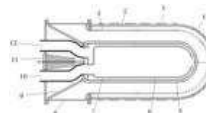


A **high** fluence **neutron** dosimetry method, for measurement of the embrittlement of a nuclear reactor pressure-container owing to **neutron** fluence, is described, including the steps of: exposing a dosimeter containing an alpha-emitting target isotope to **neutron** irradiation to form an alpha-emitting product isotope; determining the alpha decay rates of the target nucleus and the product nucleus; and using known alpha decay constants for the target nucleus and the product nucleus and the determined alpha decay rates of the target nucleus and the product nucleus to determine the **neutron capture** rate of the product nucleus.

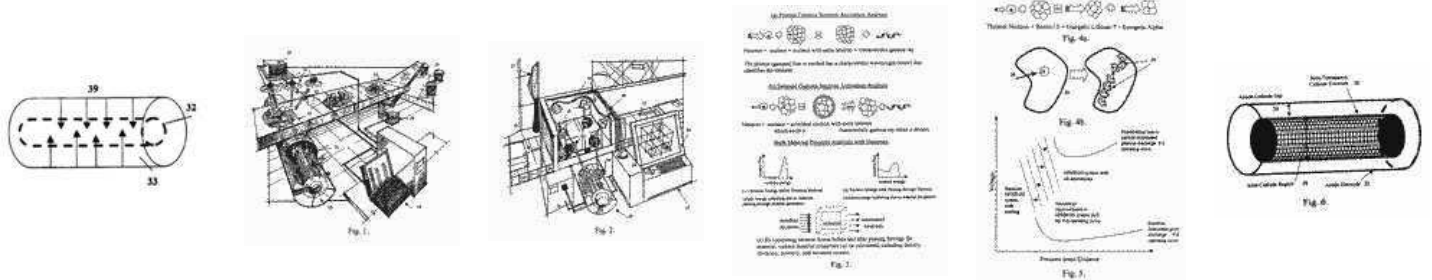
A scintillator system is provided to detect the presence of fissile material and radioactive material. One or more **neutron** detectors include scintillator material, and are optically coupled to one or more wavelength shifting fiber optic light guide media that extend from the scintillator material to guide light from the scintillator material to a photosensor. An electrical output of the photosensor is connected to an input of a pre-amp circuit designed to provide an optimum pulse shape for each of **neutron** pulses and gamma pulses in the detector signals. Scintillator material as **neutron** detector elements can be spatially distributed with interposed moderator material. Individual **neutron** detectors can be spatially distributed with interposed moderator material. Detectors and moderators can be arranged in a V-shape or a corrugated configuration.



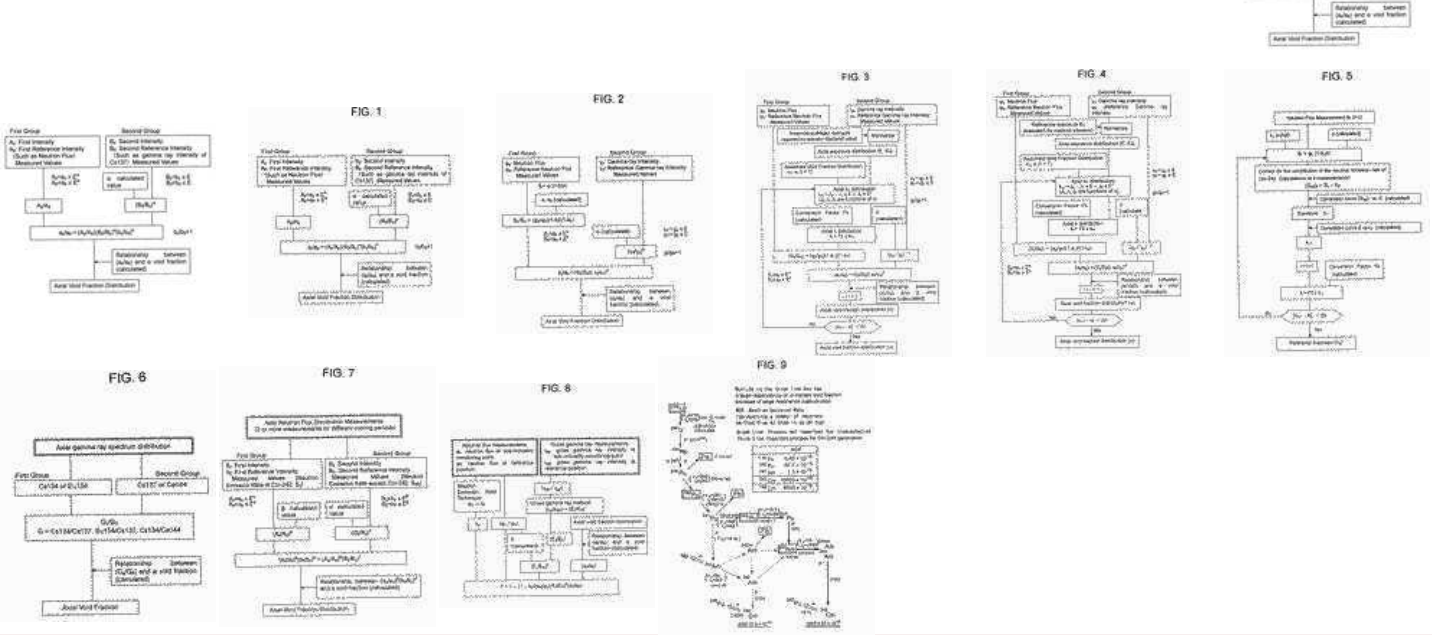
The invention discloses a small **high**-yield and deuterium-deuterium **neutron** generator. Modular distributed **high**-frequency ion sources are adopted and evenly distributed on the outer surface of a ceramic cylinder with the spherical end, and deuterium ion beams distributed evenly are output, wherein the flow intensity of the deuterium ion beams is larger than 1 A, and the single atom proportion is larger than 80%; the deuterium ion beams are accelerated in a cylindrical accelerating electric field with the spherical end and bombard a cylindrical metal or ceramic self-forming target to cause a deuterium/deuterium reaction and then generate neutrons of 2.45 MeV, and the self-forming target is located at the **high**-potential end and provided with the spherical end. The number of the modular distributed **high**-frequency ion sources and the area of the self-forming target are not limited, the yield of the neutrons of the deuterium/deuterium reaction is larger than 1011 n/s, and no radioactive pollutants are discharged. The **neutron** generator is suitable for commercialized application such as the fields of boron **neutron capture** treatment, **neutron** radiography, on-line material component **neutron** detection, **neutron** irradiation modification and californium **neutron** source substitute products.



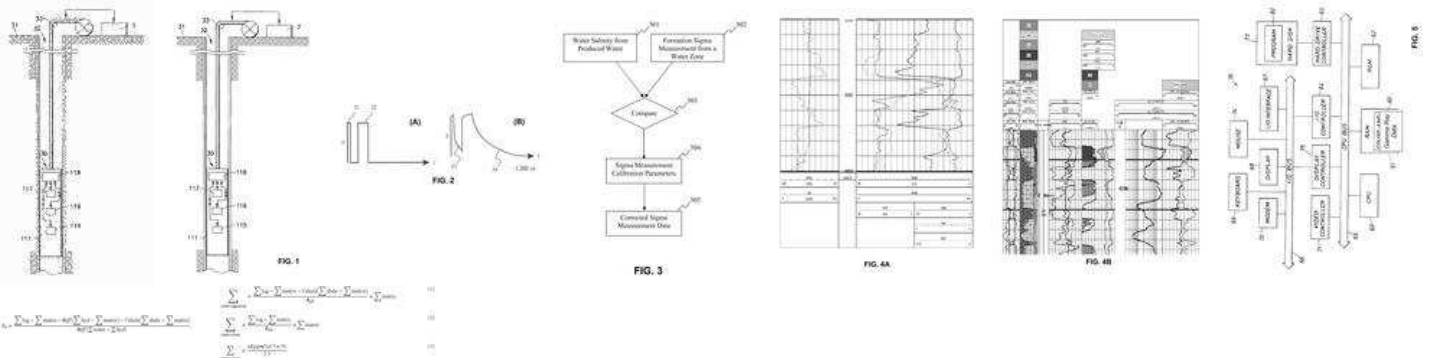
Described herein are integrated systems for generating neutrons to perform a variety of tasks including: on-line analysis of bulk material and industrial process control (as shown in Figure 1), security interrogation (as shown in Figure 2), soil and environmental analysis, and medical diagnostic treatment. These systems are based on novel gas-target neutron generation which embodies the beneficial characteristics of replenishable fusible gas targets for very long lifetime, stability and continuous operation, combined with the advantageous features common to conventional accelerator neutron tubes including: on/off operation, hermetically sealed operation, and safe storage and transport. Innovative electron management techniques provide gas-target neutron production efficiencies that are comparable or surpass existing sources. The high-pressure high-resistance gaseous discharge is presented as a favorable gas-target neutron generator embodiment, combining ion source regions, accelerator regions, gas-target regions and electron management components within a single simple cost-effective device that is adaptable to various geometric configurations that provide specific neutron emission profiles for greater analysis capacity.



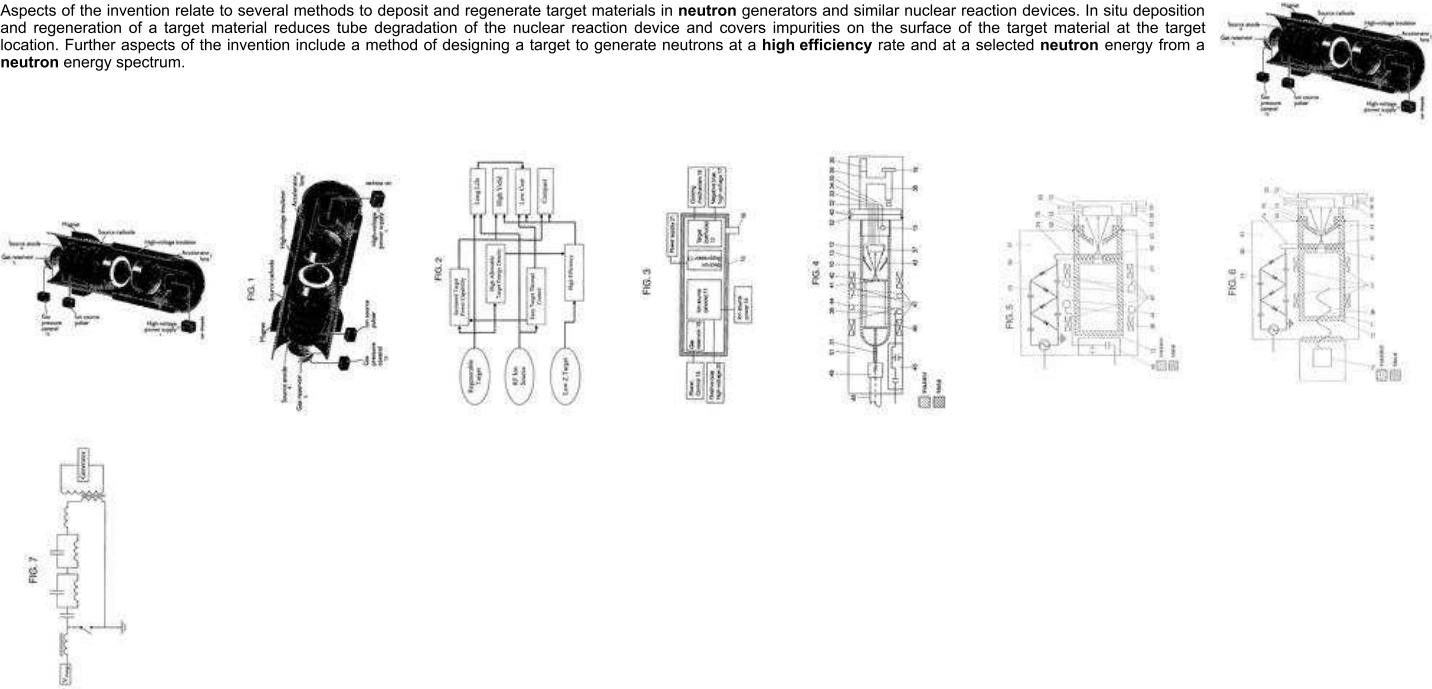
A first intensity $A_{z</SUB>0</SUB>}$ expressed as $A_{z</SUB>0</SUB>}/A_{z</SUB>0</SUB>}$, a first reference intensity $A_{z</SUB>0</SUB>}$ expressed as $A_{z</SUB>0</SUB>}/A_{z</SUB>0</SUB>}$, a second intensity $B_{z</SUB>0</SUB>}$ expressed as $B_{z</SUB>0</SUB>}/B_{z</SUB>0</SUB>}$, and a second reference intensity $B_{z</SUB>0</SUB>}$ expressed as $B_{z</SUB>0</SUB>}/B_{z</SUB>0</SUB>}$, are evaluated. The first intensity and the first reference intensity are of radioactive nuclides generated by a neutron capture reaction of a heavy nuclide or a fission product nuclide. The second intensity and the second reference intensity are of radioactive fission product nuclides except nuclides generated by a neutron capture reaction. The reference intensities are measured where the void fraction is known. Also a correlation curve of $(A_{z</SUB>0</SUB>}/A_{z</SUB>0</SUB>})$ and a void fraction is evaluated. Finally an axial void fraction distribution is evaluated based on the value of $(A_{z</SUB>0</SUB>}/A_{z</SUB>0</SUB>})$ and the correlation curve.

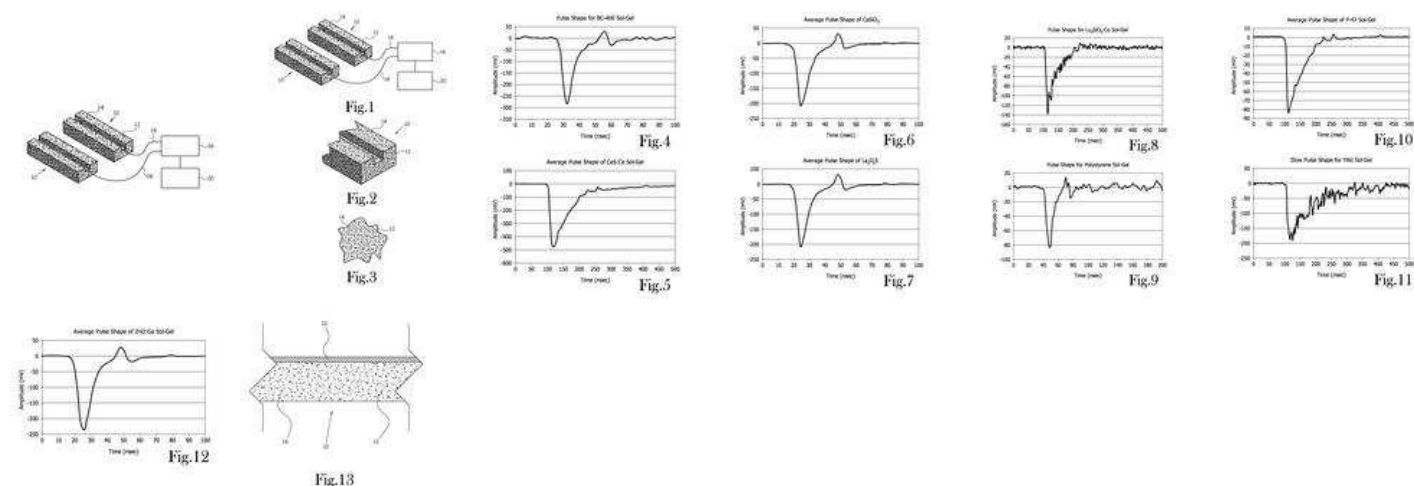
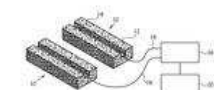
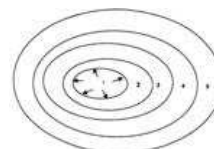


A method for logging a subsurface formation includes acquiring **neutron capture** data using a pulsed **neutron** tool at a plurality of locations along a borehole penetrating the subsurface formation, wherein the plurality of locations include a formation zone that contains water; comparing an apparent water salinity or an apparent water sigma value estimated from the **neutron capture** data acquired in the formation zone that contains water with a water salinity or water sigma value of a water sample from the subsurface formation to produce a calibration parameter for the **neutron capture** data; and correcting the **neutron capture** data, based on the calibration parameter, to produce corrected **neutron capture** data. The method may further include determining a water saturation from the corrected **neutron capture** data.

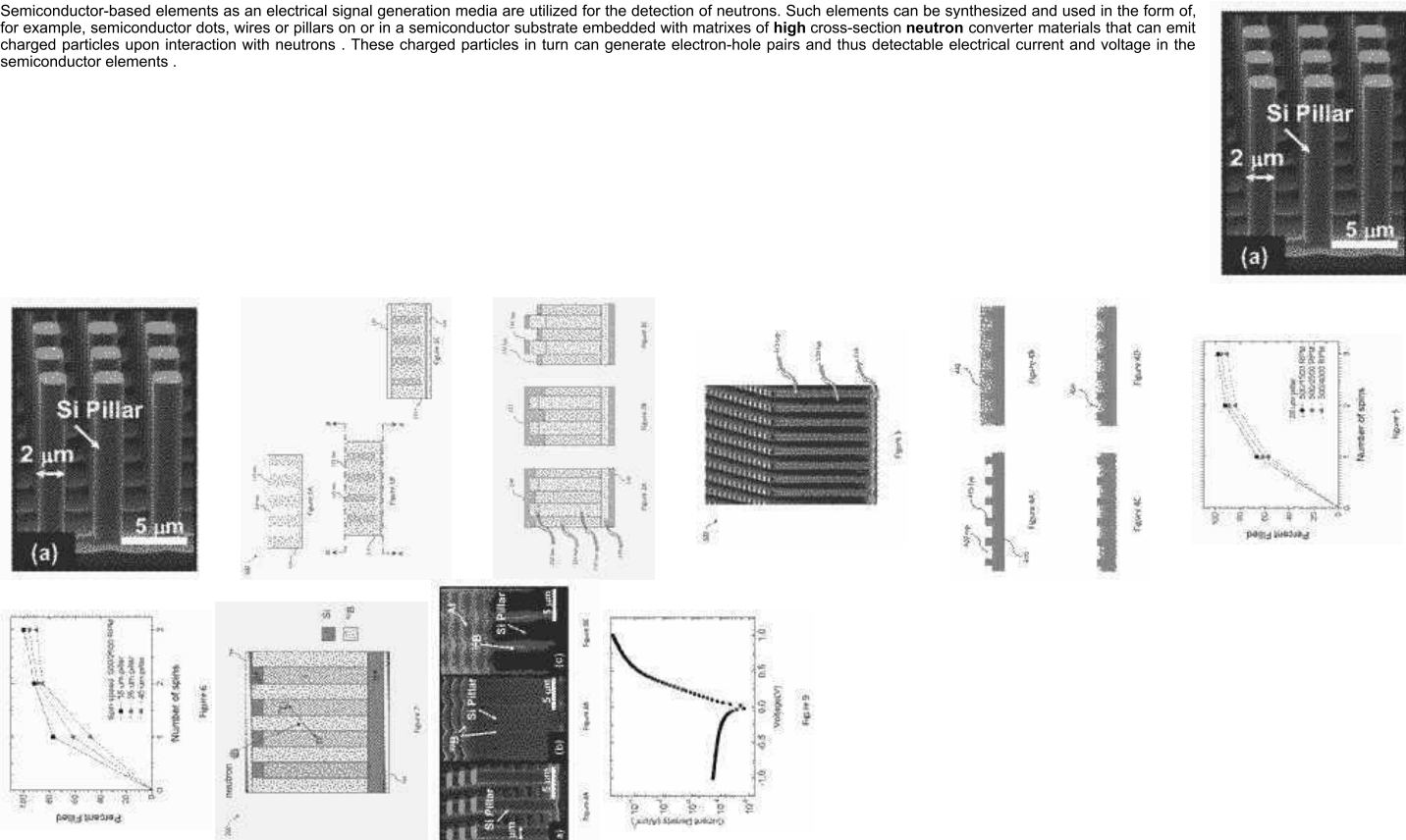


Aspects of the invention relate to several methods to deposit and regenerate target materials in **neutron** generators and similar nuclear reaction devices. In situ deposition and regeneration of a target material reduces tube degradation of the nuclear reaction device and covers impurities on the surface of the target material at the target location. Further aspects of the invention include a method of designing a target to generate neutrons at a **high efficiency** rate and at a selected **neutron** energy from a **neutron** energy spectrum.

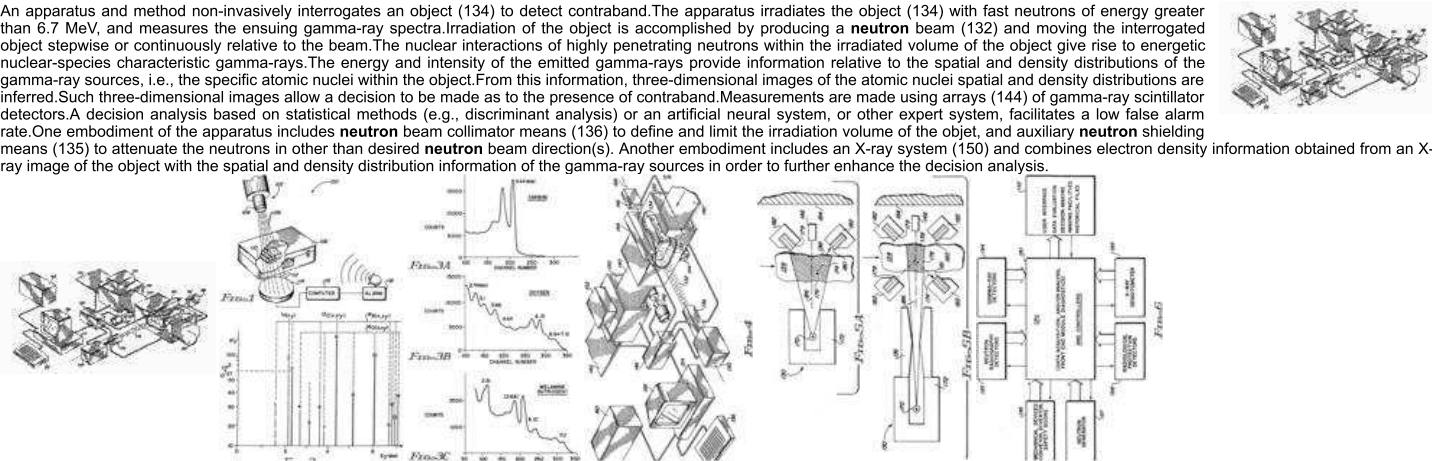


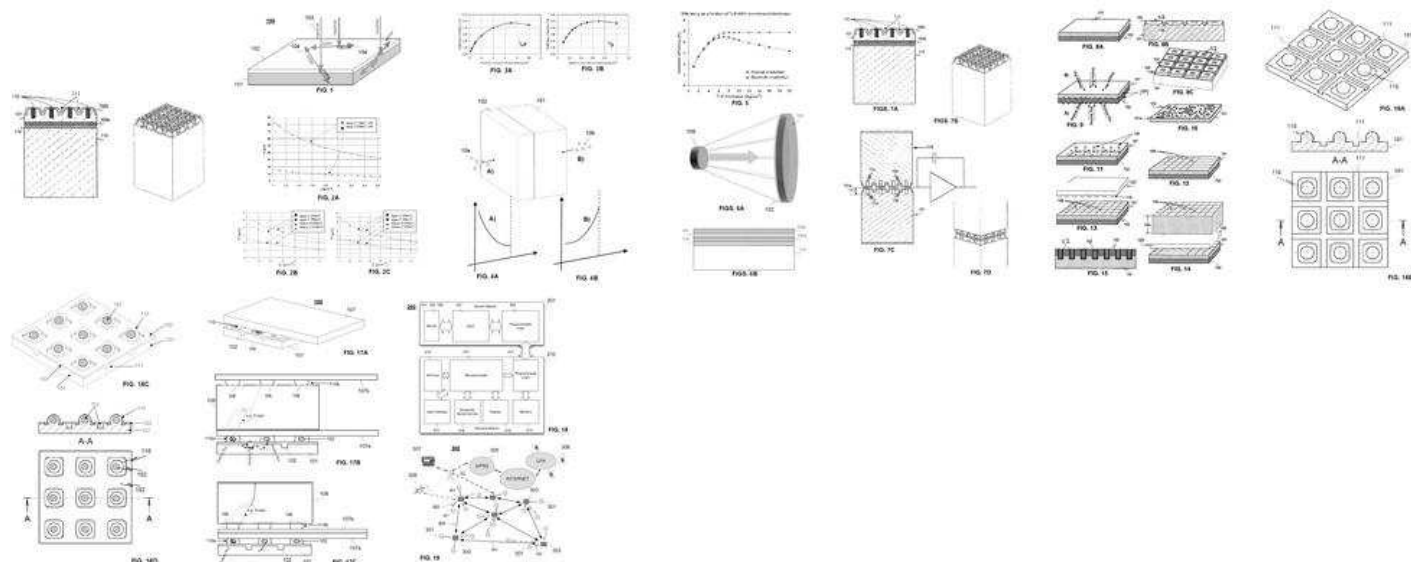
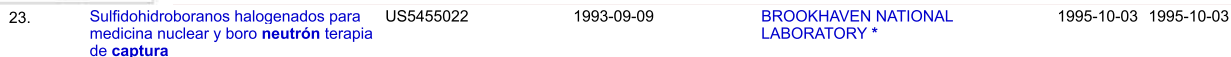


Semiconductor-based elements as an electrical signal generation media are utilized for the detection of neutrons. Such elements can be synthesized and used in the form of, for example, semiconductor dots, wires or pillars on or in a semiconductor substrate embedded with matrixes of high cross-section **neutron** converter materials that can emit charged particles upon interaction with neutrons . These charged particles in turn can generate electron-hole pairs and thus detectable electrical current and voltage in the semiconductor elements .



An apparatus and method non-invasively interrogates an object (134) to detect contraband. The apparatus irradiates the object (134) with fast neutrons of energy greater than 6.7 MeV, and measures the ensuing gamma-ray spectra. Irradiation of the object is accomplished by producing a **neutron** beam (132) and moving the interrogated object stepwise or continuously relative to the beam. The nuclear interactions of highly penetrating neutrons within the irradiated volume of the object give rise to energetic nuclear-species characteristic gamma-rays. The energy and intensity of the emitted gamma-rays provide information relative to the spatial and density distributions of the gamma-ray sources, i.e., the specific atomic nuclei within the object. From this information, three-dimensional images of the atomic nuclei spatial and density distributions are inferred. Such three-dimensional images allow a decision to be made as to the presence of contraband. Measurements are made using arrays (144) of gamma-ray scintillator detectors. A decision analysis based on statistical methods (e.g., discriminant analysis) or an artificial neural system, or other expert system, facilitates a low false alarm rate. One embodiment of the apparatus includes **neutron** beam collimator means (136) to define and limit the irradiation volume of the object, and auxiliary **neutron** shielding means (135) to attenuate the neutrons in other than desired **neutron** beam direction(s). Another embodiment includes an X-ray system (150) and combines electron density information obtained from an X-ray image of the object with the spatial and density distribution information of the gamma-ray sources in order to further enhance the decision analysis.





A particle accelerator system comprises a source assembly for emitting a stream of isotopic slugs, each slug comprising a train of microbunches, at least one RF (radiofrequency) accelerator section for receiving said slug stream and focusing, accelerating and funneling said slug stream until a plurality of **high-current**, parallel slug trains emerges, a telescope for receiving said plurality of **high-current** parallel slug trains and emitting different isotopic species into a single common-rigidity beamline so that said species arrive at a fusion target in a specified sequence, at least one snagger for receiving said common-rigidity beamline and snugging slugs within said common-rigidity beamline until they drift to points at prescribed distances from at least one target in at least one reaction chamber.

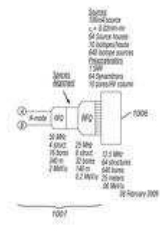
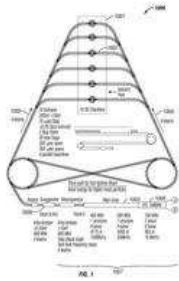
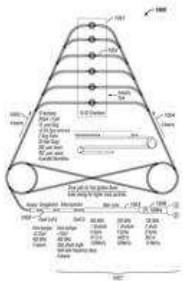


FIG. 1
(Cont'd)

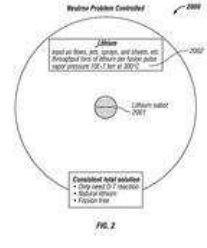


FIG. 2

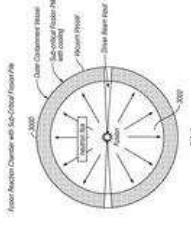


FIG. 3

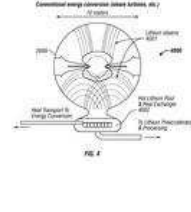


FIG. 4

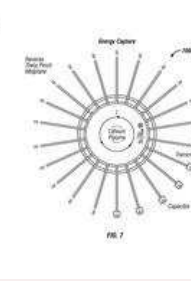
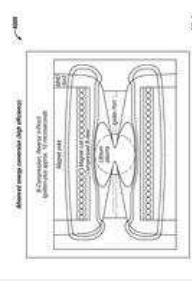
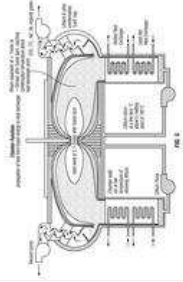


FIG. 5

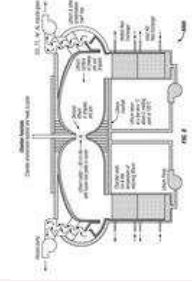


FIG. 6