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(74) Agent: **GOH, Su Lin, Audrey**; Viering, Jentschura & Partner LLP, P.O. Box 1088, Rochor Road, Singapore 911833 (SG).

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(71) Applicant (for all designated States except US): **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way #20-10, Connexis, Singapore 138632 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HAN, Guchang** [SG/SG]; c/o DSI Building, 5 Engineering Drive 1, Singapore 117608 (SG). **QIU, Jinjun** [CN/SG]; c/o DSI Building, 5 Engineering Drive 1, Singapore 117608 (SG). **WANG, Li** [SG/SG]; c/o DSI Building, 5 Engineering Drive 1, Singapore 117608 (SG). **YEO, Wee Kay** [SG/SG]; c/o DSI Building, 5 Engineering Drive 1, Singapore 117608 (SG). **WANG, Chenchen** [SG/SG]; c/o DSI Building, 5 Engineering Drive 1, Singapore 117608 (SG).

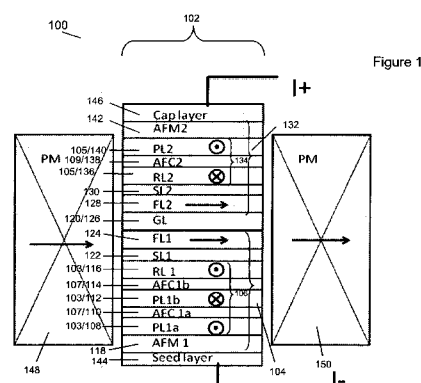
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(54) Title: A SENSOR ARRANGEMENT



(57) Abstract: In an embodiment, a sensor arrangement may be provided. The sensor arrangement may include a sensor including a first spin valve. The first spin valve may include a first free layer structure; a first pinning structure disposed over the first free layer structure; and a first anti-ferromagnetic layer disposed over the first pinning structure. The sensor may further include a second spin valve. The second spin valve may include a second free layer structure; a second pinning structure disposed over the second free layer structure; and a second anti-ferromagnetic layer disposed over the second pinning structure. The sensor may also include a separator structure positioned between the first spin valve and the second spin valve such that the separator structure may be in contact with the first free layer structure and the second free layer structure. The first pinning structure may include an odd number of first ferromagnetic layers and the second pinning structure may include an even number of second ferromagnetic layers so as to enable the sensor to provide a differential signal when a current flows through the sensor.