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(54) **METHOD AND SYSTEM FOR DIAGNOSIS OF ATTENTION DEFICIT HYPERACTIVITY DISORDER FROM MAGNETIC RESONANCE IMAGES**

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A61B 5/055	(2006.01)
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(58) **Field of Classification Search**

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See application file for complete search history.

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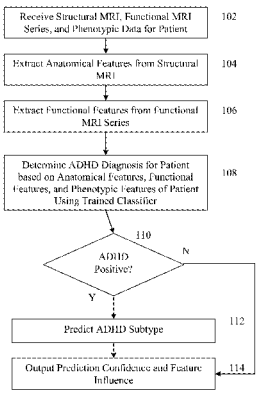
(57) **ABSTRACT**

A method and system for automated diagnosis of attention deficit hyperactivity disorder (ADHD) from magnetic resonance images is disclosed. Anatomical features are extracted from a structural magnetic resonance image (MRI) of a patient. Functional features are extracted from a resting-state functional MRI (rsFMRI) series of the patient. An ADHD diagnosis for the patient is determined based on the anatomical features, the functional features, and phenotypic features of the patient using a trained classifier. An ADHD subtype may then be determined for patients diagnosed as ADHD positive using a second trained classifier.

43 Claims, 7 Drawing Sheets