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(54) **RECEPTION METHODS AND APPARATUSES FOR NON-UNIFORM CONSTELLATION MODULATED SIGNALS**

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(57) **ABSTRACT**

A coding and modulation apparatus and method are presented. The apparatus (**10**) comprises an encoder (**11**) that encodes input data into cell words, and a modulator (**12**) that modulates said cell words into constellation values of a non-uniform constellation. The modulator (**12**) is configured to use, based on the total number M of constellation points of the constellation, the signal-to-noise ratio SNR in dB and the channel characteristics, a non-uniform constellation from a group of constellations comprising one or more of predetermined constellations defined by the constellation position vector u1 . . . v, wherein $v=sqrt(M)/2-1$.