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(54) Title: METHOD AND APPARATUS FOR IMPROVED QAM CONSTELLATIONS

(57) Abstract: A method and transmitter and receiver for determining and transmitting or receiving a non-uniform QAM signal comprises selecting a signal to noise ratio for a channel and forward error corrector and then determining positions of constellation points that maximise a measure of channel capacity at the selected signal to noise ratio. The position of one constellation point and another constellation point within the constellation are constrained to be equal to one another prior to determining the positions of the constellation points. In doing so, a so called condensed QAM constellation arrangement may be derived having fewer than conventional number of constellation points for a given QAM scheme. The condensed QAM arrangement has improved performance at certain signal to noise ratios.