

# Direction of arrival estimation for MIMO systems employing constellation-based precoding

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**Abstract:**

A method is proposed to derive direction of arrival (DOA) information in a multiple-input single-output (MISO) or single-mode multiple-input multiple-output (MIMO) communications system that uses constellation-based limited feedback precoding. The DOA is estimated based on the distribution of precoders selected over multiple feedback intervals. The results show that coarse DOA estimates can be made with little additional system resource allocation.