# Identification and Supervised Equalization of a MIMO Non-linear Communication Channel

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**Abstract**: Due to their general non linear structural and their linearity with respect to their parameters, Volterra models are widely used to describe the behaviour of non linear process. In this paper we are concerned by the modelling and the supervised equalization of a Multi Input Multi Output non linear communication channel using Volterra models. To overcome the burden induced by the parameter number increasing, we develop the Volterra kernel on the General Orthogonal Basis GOB to provide a reduced complexity model known as GOB-Volterra model.