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Frederique Oggier* (frederique@systems.caltech.edu), Frederique Oggier, California Institute of Technology, Moore building, Pasadena, CA 91125. *On the Use of Division Algebras for Wireless Communication.*

Several wireless coding problems (coherent and noncoherent differential space-time coding, distributed space-time coding) address the design of *fully-diverse* matrices, that is, matrices such that the difference of any distinct two of them is full rank. In this talk, I will recall how the problem of designing fully-diverse matrices arises, and explain how division algebras naturally provide such fully-diverse matrices. Thanks to this property, division algebras are becoming an increasingly used tool for wireless coding. (Received January 07, 2007)