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Mathematical Diffraction Theory

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In this talk we will review some of the recent progress in Diffraction Theory. We will start by introducing some general structures which give rise to Bragg peak diffraction, and we will discuss the connection between these structures and the concept of almost periodicity for measures. We will explain why almost periodicity is a very helpful tool in the study of Meyer sets, but yields weaker results outside this class. We will complete our talk by looking at the diffraction of some interesting examples which do not fall into the class of Meyer sets.

Keywords: Diffraction, Almost periodicity, Meyer Sets