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Gennadiy Averkov* (gennadiy.averkov@googlemail.com), Magdeburg 39106, Germany. *On results from convexity related to the phase retrieval problem.*

The phase retrieval problem asks about the retrieval of a function f from the modulus of its Fourier transform. Of course, such a retrieval is not unique unless some extra assumptions on f are imposed. If f is a characteristic function of a convex body K , the corresponding problem is called the covariogram problem for K . The covariogram problem appears in various applied fields (crystallography, image analysis etc.) and has several interpretations in mathematics. In this talk we present uniqueness results on covariogram problem for some new classes of convex bodies as well as results on retrieval from incomplete covariogram data. (Received October 11, 2006)