

**MEETING ON TOMOGRAPHY AND
APPLICATIONS
MATHEMATICS DEPARTMENT, POLITECNICO DI MILANO
MARCH 21-23, 2016**

Some applications of an algebraic framework for discrete tomography

ABSTRACT In the talk we present some applications using an algebraic framework for discrete tomography. We start with briefly outlining the underlying algebraic framework, worked out together with R. Tijdeman. We mention that the original setting concerned rectangular sets only, however, later on we extended the theory to any convex set. Then we give some applications relying on these settings. We shall focus on two directions: the geometric placement of the solutions (related results of Batenburg, van Dalen, Fortes, Tijdeman, Hajdu and others) and the question of uniqueness (results of Brunetti, Dulio, Peri, Hajdu and others, in comparison with the fundamental theorems of Lorentz for arbitrary and Gardner and Gritzmann for convex sets, and results of Katz and others in connection with the Mojette transform).

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