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Michael Jury* (mjury@uf1.edu), Department of Mathematics, University of Florida, PO Box 118105, Gainesville, FL 32611-8105, and **Scott McCullough** (sam@uf1.edu), Department of Mathematics, University of Florida, PO Box 118105, Gainesville, FL 32611-8105. *Nevanlinna-Pick interpolation in hypo-Dirichlet and related algebras*. Preliminary report.

We consider the Nevanlinna-Pick interpolation problem in H^∞ spaces associated to uniform algebras A , satisfying axioms slightly weaker than hypo-Dirichlet. A necessary and sufficient condition for interpolation is obtained in terms of the positivity of a family of Pick matrices. In the key motivating examples, we recover in a unified way the results of Abrahamse (for finitely connected planar domains) and Davidson, Paulsen, Raghupathi and Singh (for constrained interpolation in the disk). By comparing the representations of H^∞ associated to the different kernels in the family, we obtain an abstract Abel-Jacobi map on the maximal ideal space of A . This is joint work with Scott McCullough and will complement his talk at the meeting. (Received September 13, 2010)