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David Scheinker*, dscheink@gmail.com. *Rational inner functions and the Nevanlinna-Pick problem on D^n* . Preliminary report.

Fix a rational inner function f on D with degree N . If one chooses any $N + 1$ distinct points x_1, \dots, x_{N+1} in D , then the the Nevanlinna-Pick problem with data x_1, \dots, x_{N+1} and $f(x_1), \dots, f(x_{N+1})$ has a unique solution. Furthermore, essentially every Nevanlinna-Pick problem on D with a unique solution arises this way. In this talk, we give some examples of Nevanlinna-Pick problems on D^n with $n > 1$ demonstrating the ways in which this behavior of rational inner functions on D extends and fails to extend to D^n . (Received September 14, 2011)