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**Nicholas O Cox-Steib\*** (noc3md@mail.missouri.edu), 800 South Tucker Drive, Tulsa, OK 74104, and **Kevin O'Neil**. *Identities Satisfied by Roots of Vortex Polynomials*.

The Adler-Moser polynomials were originally introduced in the study of rational solutions to the Korteweg-de Vries equation. Later it was discovered that the zeros of these polynomials are related to equilibrium configurations of point vortices with strength ratio  $-1$ . Recently Loutsenko introduced a similar sequence of polynomials that are related to systems of vortices with strength ratio  $-2$ . In our previous work, doubly-indexed families of polynomials were introduced that generalize the Adler-Moser and Loutsenko sequences by including an additional vortex of integer or half-integer strength.

The zeros of the Adler-Moser polynomials correspond to poles of rational solutions to the Korteweg-de Vries equation and are known to satisfy highly non-trivial identities. The present work discusses the similar identities satisfied by the zeros of Loutsenko's polynomials and a technique for generalizing these results to the doubly-indexed families of polynomials introduced in our earlier work. (Received August 10, 2015)