Zeros of Faber polynomials for Joukowski airfoils

08.07 **Franck Wielonsky**
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Abstract: Let K be the closure of a bounded region in the complex plane with simply connected complement whose boundary is a piecewise analytic curve with at least one outward cusp. The asymptotics of zeros of Faber polynomials for K are not understood in this general setting. Joukowski airfoils provide a particular class of such sets. We determine the (unique) weak-* limit of the full sequence of normalized counting measures of the Faber polynomials for Joukowski airfoils. This limit is always different from the equilibrium measure of K. This implies that these airfoils admit an electrostatic skeleton and also explains an interesting class of examples of Ullman related to Chebyshev quadrature. *Joint work with Norm Levenberg.*