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Desingularized propagating vortex equilibria[1] STEFAN LLEWELLYN SMITH, MAE, UCSD — The correction to the propagation velocity of point vortex equilibria is calculated by allowing the vortices to have finite core size. A matched asymptotic expansion in the small parameter ϵ, given by the ratio of the core size to the dimension of the configuration, is carried out. The resulting velocity correction is found to be of order ϵ^4 and comes from the interaction of terms in the inner expansion. The results are compared to the known cases of propagating hollow vortex and vortex patch dipoles.

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