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Erratum
A Theory of Exact Solutions for Annular Viscous Blobs

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The particular example given in §6 of Crowdy and Tanveer [1] to illustrate the general theory is in error because it is not consistent with the original assumptions underlying the theory. The theory developed in earlier sections assumes that a single-valued analytic function $F(\zeta, t)$ can be found in the annulus $\rho(t) < |\zeta| < 1$ when the integration constants $A_O(t)$ and $A_I(t)$ in equations (16) and (17) are set equal to each other. It has since been pointed out by Richardson [2], and we agree with him, that this assumption is self-consistent when the solutions represent interfaces that have a rotational symmetry, which the example in §6 does not have. This particular example should be disregarded. Once initial conditions are chosen with such rotational symmetries, the general theory given in [1] is still applicable and useful and can reveal interesting features of the physical problem as shown in a recent paper by Crowdy [3], where examples based on the theory of [1] are calculated and investigated. The theory of [1] is different in both approach and formulation from the one subsequently developed by Richardson [2] for the same mathematical problem of surface tension driven Stokes flow of a doubly-connected region.

References

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