

## **Asymptotic behavior of solitary waves with localized vorticity in deep water**

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We consider free-surface solitary waves of an infinitely deep 2- or 3- dimensional fluid with a localized distributed vorticity. We are able to obtain precise asymptotics at infinity, given a very mild algebraic decay assumption. Moreover using these asymptotics we can prove several qualitative properties of the wave. This is joint work with S. Walsh and M. Wheeler.