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Michael T. Lock*, Department of Mathematics, The University of Texas at Austin, 2515
Speedway, RLM 8.100, Austin, TX 78712. *Scalar-flat Kahler ALE metrics on minimal resolutions.*

Scalar-flat Kahler ALE surfaces have been studied in a variety of settings since the late 1970s. All previously known examples have group at infinity either cyclic or contained in $SU(2)$. I will describe an existence result for scalar-flat Kahler ALE metrics with group at infinity G , where the underlying space is the minimal resolution of C^2/G , for all finite subgroups G of $U(2)$ which act freely on S^3 . I will also discuss a non-existence result for Ricci-flat metrics on certain ALE spaces, which is related to a conjecture of Bando-Kasue-Nakajima. This is joint work with Jeff Viaclovsky. (Received August 11, 2015)