

Deformation theory of scalar-flat Kahler ALE surfaces

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I will discuss a Kuranishi-type theorem for deformations of complex structure on ALE Kahler surfaces, which will be used to prove that for any scalar-flat Kahler ALE surface, all small deformations of complex structure also admit scalar-flat Kahler ALE metrics. A local moduli space of scalar-flat Kahler ALE metrics can then be constructed, which is universal up to small diffeomorphisms. I will also discuss a formula for the dimension of the local moduli space in the case of a scalar-flat Kahler ALE surface which deforms to a minimal resolution of an isolated quotient singularity.

This is joint work with Jiyuan Han.

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