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Jianfeng Lin and **Anubhav Mukherjee*** (anubhavmaths@gatech.edu). *Bauer–Furuta invariant and Exotic surfaces.*

Recall that a pair of surfaces Σ and Σ' in a 4-manifold with boundary called "exotic" if there exists a topological isotopy relative to boundary that takes one surface onto the other but not smoothly. Work of Perron and Quinn says that such exotic pairs become smoothly isotopic after some number of stabilizations, i.e connected summing with $S^2 \times S^2$'s away from the surfaces. It is a long standing open question, whether a single stabilization is enough or not. We constructed the first counter-example for this problem using $\text{Pin}(2)$ equivariant Bauer–Furuta invariant. This is a joint work with Jianfeng Lin. (Received September 20, 2021)