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**Karol Koziol\***, University of Alberta, Department of Mathematics, Edmonton, AB T6G 2G1, Canada, and **Stefano Morra**. *Serre weight conjectures for unitary groups*.

In the 1970s, Serre formulated his remarkable conjecture that every two-dimensional mod- $p$  Galois representation of the absolute Galois group of  $\mathbb{Q}$ , which is odd and irreducible, should come from a modular form. He later refined his conjecture, giving a precise recipe for the weight and level of the modular form. Both the "weak form" and "strong form" of Serre's conjecture are now theorems, due to the work of many mathematicians (Khare-Wintenberger, Kisin, Edixhoven, Ribet, and others). In this talk, we will discuss how to generalize Serre's weight recipe when the Galois representation is replaced by a homomorphism from an absolute Galois group to the Langlands dual of a rank 2 unitary group. This is joint work with Stefano Morra. (Received August 21, 2018)