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Karim Johannes Becher, David B Leep and Claus Schubert*
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We study the behavior of semiorderings and the stability index under field extensions. In particular, we show that the stability index may drop to any integer ≥ 1 under a quadratic extension. This does not happen in the case of a finite extension K/F where all orderings extend. However, even in this case, there may be fans in the ordering space $X(F)$ that do not extend to fans in $X(K)$. We investigate the relationship between the properties “ K/F preserves orderings”, “ K/F preserves fans”, and “ K/F preserves semiorderings”. (Received September 08, 2010)