Totally positive field extensions and pythagorean closures of formally real fields

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Abstract:

Let K/F be a totally positive field extension. We prove that, if K/F is Galois and totally positive then so is the corresponding extension of their pythagorean closures $K_{\mathrm{py}}/F_{\mathrm{py}}$. We also discuss the index, isotropy and hyperbolicity of central simple algebras over totally positive field extensions.