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On isospectral quaternion orders

Schiemann proved in 1997 that a 3-dimensional integral lattice is determined up to isometry by the number of elements of each norm. However, in all higher dimensions, there exist many pairs of non-isometric lattices that are isospectral, meaning they have the same number of elements of norm n for all integers n (equivalently, they have the same theta function). Given a quaternion algebra B_p over \mathbb{Q} ramified at a single finite prime p , we show that if two maximal orders of B_p are isospectral, then they are isomorphic. This is joint work with Eyal Goren.