Products of degenerate quadratic forms

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Abstract

I will explain how to construct non-degenerate quadratic forms by multiplying together possibly degenerate ones, hence creating classes in (Grothendieck–) Witt groups in a new and indeed useful way. This method develops most smoothly in tensor triangulated categories with duality "defined over some topological space". Very explicit examples of such Witt classes will be given for projective spaces over arbitrary bases, leading to a simple proof of Walter's theorem in the regular case. Then, for the last few minutes, I plan to invite our K-theory audience to a slightly external trip, for a short visit of "triangular geometry", a variation on the above theme of triangulated categories defined over a topological space. (Solid background on bisectors and medians required.)