

## Smearing versus localising sources in flux compactifications

We investigate whether vacuum solutions in flux compactifications that are obtained with smeared sources still survive when the sources are localised. This seems to rely on whether the solutions are BPS or not. First we consider a set of BPS solutions that all relate to the GKP solution through T-duality:  $(p+1)$ -dimensional solutions from spacetime-filling Op planes with a conformally flat internal space and  $p$ -dimensional solutions with orientifolds that wrap a 1-cycle inside an everywhere negatively curved twisted torus. The relation between the solution with smeared orientifolds and the localised version is worked out in detail. Then we consider a class of non-BPS AdS4 solutions that exist for non-ISD fluxes and with smeared D3-branes. This casts serious doubts on the stringy consistency of non-BPS solutions that are obtained in the limit of smeared sources.

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