

Unified approach to critical-contrast  
homogenisation of PDEs, with explicit links  
to time-dispersive media

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**Abstract**

I will discuss a novel approach to critical-contrast homogenisation, which allows to see homogenisation limits restricted to the “stiff” component of the composite as a class of time-dispersive media. By an inversion of this argument, we also offer a recipe for the construction of such media with prescribed dispersive properties from periodic composites. This is joint work with Y. Ershova (Bath) and A. Kiselev (St.Petersburg).