



## Karlstad Applied Analysis Seminar (2023)

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### **Homogenization of some Problems with Sign- Changing Coefficients.**

#### **Abstract**

This talk focuses on the presentation of some homogenization results for sign-changing problems. The problems studied are inspired by metamaterials, composite materials that can produce an index of refraction negative, and which have practical applications in optics, electromagnetism, acoustics. By adapting the T-coercivity method on the one hand and homogenization techniques on the other hand, we prove that the problems under study, as well as the homogenized problems, are well posed and we obtain results of convergence of the initial solutions towards the solutions of the homogenized problems.