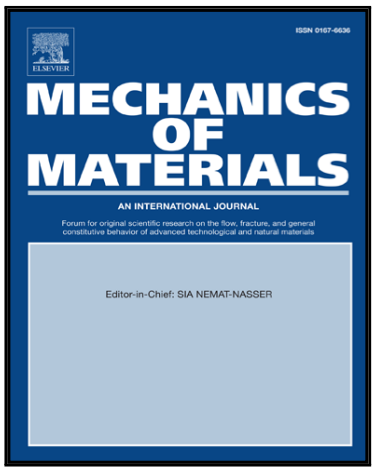


# Laminate-based modelling of single and polycrystalline ferroelectric materials – application to tetragonal barium titanate

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**Highlights**

- Development of laminate-based models to study single crystalline ferroelectric materials
- A homogenisation procedure based on random orientation of the individual grains in a polycrystalline aggregate is considered to study the polycrystalline ferroelectric material response
- Model parameter identification based on experimental single crystal tetragonal ferroelectric hysteretic response
- The model as well as the algorithmic scheme are verified by solving representative boundary value problems