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Multiferroic perovskites under epitaxial strain

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**Multiferroic perovskites under epitaxial strain:
The case of TbMnO₃ thin films.**

Christophe Daumont

Front cover pictures: Temperature dependence of the Cole-Cole plot for a 40nm TbMnO₃ film grown at 0.9mbar. Evolution of the Density of domain walls and the magnitude of the ZFC-FC splitting as a function of the inverse thickness of TbMnO₃ films grown at 0.9mbar. Transmission electron microscopy plane-view image of a TbMnO₃ film grown on SrTiO₃. Grazing incidence diffraction map around the (110) of the SrTiO₃ substrate evidencing domains formation.

Back cover picture: Snapshot of the laser plume during deposition of BiFeO₃ on a SrTiO₃ substrate.

Background: Picture of the vineyard in the region of Champagne, France.

Cover design: Christophe Daumont.



University of Groningen
**Zernike Institute
for Advanced Materials**

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The case of TbMnO_3 thin films**

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I dedicate this thesis to my family and friends.

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