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# The nanostructure of porous cobalt coatings deposited by magnetron sputtering in helium atmosphere

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## Highlights:

- Cobalt coatings containing He-filled nanopores are grown by magnetron sputtering.
- Helium density and pressure are measured in pores of different size by STEM-EELS.
- He density in most of the pores (40-100 at./nm<sup>3</sup>) lead to pressure in the GPa range.
- Helium is at the equilibrium pressure and remains stable inside the pores.

## Abstract

In this work, (scanning) transmission electron microscopy has been used to study the nanostructure of porous cobalt coatings obtained by magnetron sputtering using

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