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From macro to micro: universal properties of neutron stars

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Universal I-Love-Q relations connect the moment of inertia, the tidal Love numbers
and the quadrupole moment of a neutron star. Such identities are nearly independent
from the star internal composition, and therefore they represent a valuable tool to test
its features irrespective of the equation of state.
In this talk will review the recent progress on the field. I will explore the
domain of validity of I-Love-Q relations, and the attempts to provide a comprehensive description of their physical origin. Finally, I will show the prospect to use them
with future gravitational and electromagnetic observations,
to constraint the neutron star internal composition, and to derive information on its physical environment.

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