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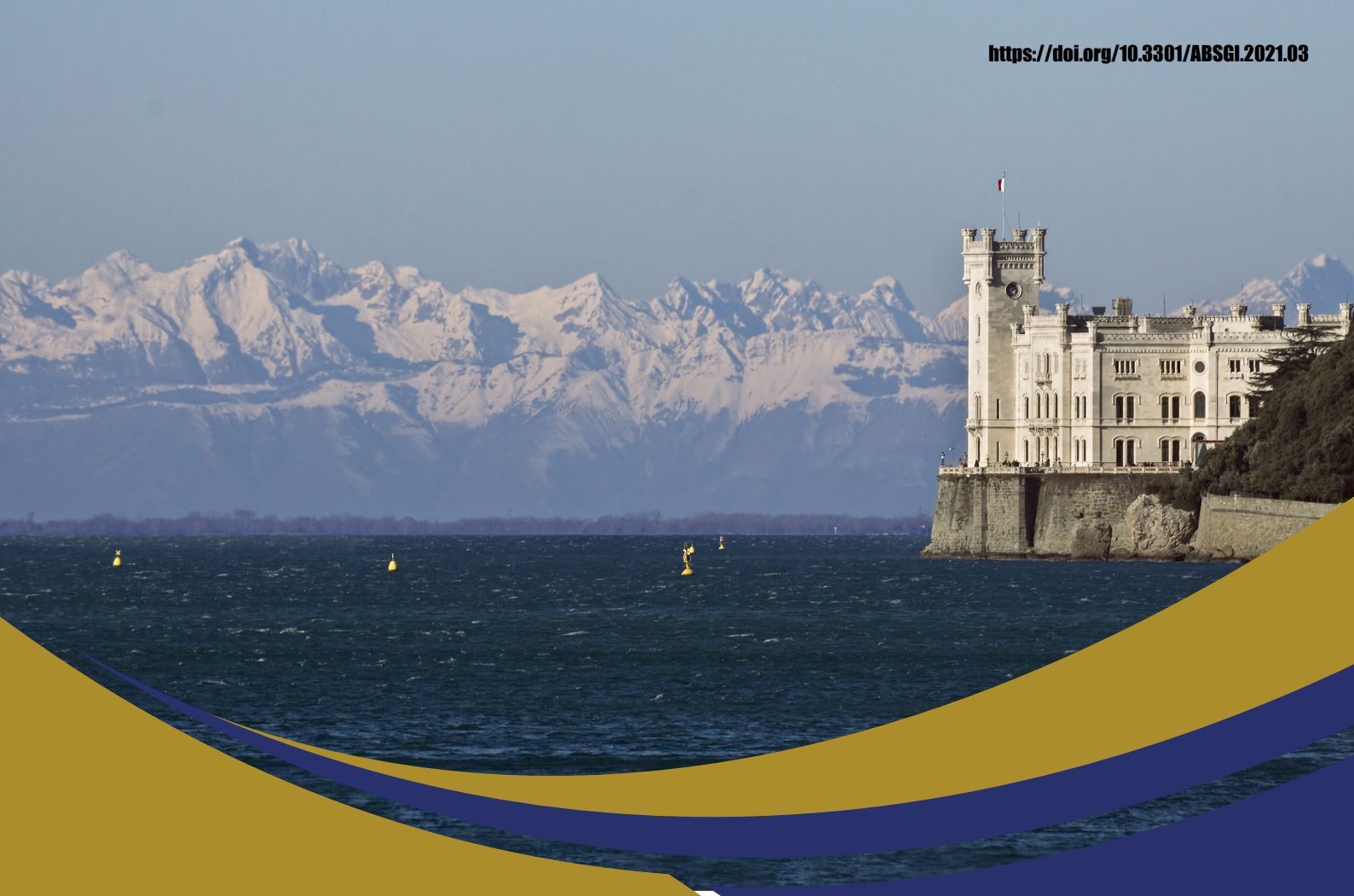

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ABSTRACT BOOK

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GEOLOGY WITHOUT BORDERS

90° Congresso della Società Geologica Italiana

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COVER IMAGE:

Miramare Castle in Trieste (Italy) with mountains in background (Photo 7915319 © Jackallxxx | Dreamstime.com).

PALEOSTRIPv1.0 - a user-friendly 3D backtracking software to reconstruct paleo-bathymetries

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We present PALEOSTRIPv1.0, a MATLAB open-source software designed to perform 1D, 2D and 3D backtracking of paleo-bathymetries. PALEOSTRIP comes with a Graphical User Interface (GUI) to facilitate computation of sensitivity tests and to allow the users to switch on and off all the different processes and thus separate the various aspects of backtracking. As such, all physical parameters can be modified from the GUI. It includes 3D flexural isostasy, 1D thermal subsidence and possibilities to correct for prescribed sea level and dynamical topography changes. In the following we detail the physics embedded within PALEOSTRIP and we show a few applications on a drilling site (1D), a transect (2D) and a map (3D), taking the Ross Sea (Antarctica) as a case study. PALEOSTRIP has been designed to be modular and to allow users to insert their own implementations.