**“DEM2xyz v.2.0”: documentation file**

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“The minor tool “DEM2xyz v.2.0” is realised by RSE SpA thanks to the funding “Fondo di Ricerca per il Sistema Elettrico” within the frame of a Program Agreement between RSE SpA and the Italian Ministry of Economic Development (Ministero dello Sviluppo Economico).”

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* under the Contract Agreement between RSE SpA and the Italian Ministry of Economic Development for the RdS period 2015-2017, in compliance with the Decree of 21 April 2016. Reference project: ‘A.5 - Sicurezza e vulnerabilità del sistema elettrico’, Frigerio A. et al., 2015–2018.

## Description and references

DEM2xyz v.2.0 (RSE SpA) is written by Andrea Amicarelli (email address: andrea.amicarelli@rse-web.it).

“DEM2xyz v.2.0” is free software released under the GNU General Public License (Free Software Foundation).

The description of the code is available in the documentation file of SPHERA (RSE SpA, [4]).

## Tutorials

DEM2xyz v.2.0 is validated on 3 tutorials (following sub-sections), each one having possible variants. Some of the tutorials are published on International Journals and were also carried out with previous versions of the code. Other minor test cases only represent very simple configurations.

## “edb\_ICOLD”

This tutorial is completely described in Amicarelli et al. (2017, [1]). The paper version available on ResearchGate might help in case the published version is unavailable.

## “db\_Alpe\_Gera”

This tutorial is completely described in Amicarelli & Agate (2017, [2]). This project report is Open-Access and also includes a synthetic English version.

## lon\_lat\_demo

This is a very simple and very fast tutorial with input data in geographic coordinates.

## References

1. Amicarelli A., B. Kocak, S. Sibilla, J. Grabe; 2017; A 3D Smoothed Particle Hydrodynamics model for erosional dam-break floods; International Journal of Computational Fluid Dynamics, 31(10):413-434; DOI 10.1080/10618562.2017.1422731
2. Amicarelli A., G. Agate; 2017; Modellazione fluidodinamica SPH per la propagazione di inondazioni in presenza di opere di protezione; RSE SpA, Ricerca di Sistema, Deliverable 17002102.
3. Paraview (Kitware), https://github.com/Kitware/ParaView
4. SPHERA (RSE SpA), https://github.com/AndreaAmicarelliRSE/SPHERA