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MATLAB-PROGRAM: EGMtransf
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Purpose: Transforms the fully normalized spherical harmonic coefficients
of type C and S (and their associated formal standard deviations)
of a global geopotential model from their inherent terrestrial
reference frame to another Earth-fixed reference frame.

The frame transformation is implemented on the basis of
user-selected values for the shift, rotation and scale
change parameters between the two Earth-fixed reference frames.

Functional Model: Helmert-type similarity frame transformation of SHCs
based on the linearized formulae given in the paper:
Kleusberg A. (1980) "The similarity transformation of
the gravitational potential close to the indentity".
Manuscripta Geodaetica, vol. 5, pp. 241-256.

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Initially created: 10/10/2011
Last modified: 21/07/2015

IMPORTANT NOTES.

1) The program is provided in Matlab p-code binary form. It can be run directly
from the Matlab command window by typing 'EGMtransf'.

2) The program is designed to read directly "gfc" files of static geopotential
models according to the format used by the International Centre for Global Earth
Models (ICGEM).

3) By default, the program always sets the zero-degree harmonic coefficient
of the input geopotential model equal to one.

4) If the input file of the geopotential model does not include any first-degree
harmonic coefficients (C10, C11, S11) then the program sets these coefficients
equal to zero.

5) The SHC transformation formulae used by the program are based on Eqs. (3.3)
and (3.4) which are given in Kleusberg's paper (MG, 1980). Note that some of
the terms that appear in those equations have been printed in error,
as pointed out in page 37 in Kotsakis (2009, JGeod, vol.83, no.1, pp.31-50).

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