

Multi resolution expression of global data

Masaru Kaidzu[1]

[1] GSI

Multi resolution expression similar to Haar wavelet in one dimensional case is applied to global gravity and topography data. The expression is originally proposed by Higuchi and others in 1999. The expression applies triangular grid on sphere. As is well known, it is impossible to divide spherical surface into equal grids except five special case. The expression is thus approximately multi resolution. It will be necessary to keep area information if precise calculation is needed. However, its fastness and easiness of calculation is quite attractive.

As an application, EGM96 height anomaly and one degree DEM of RAND institute are expressed in above scheme. High correlation zone is seen in eastern eurasia and northern atlantic.