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This lecture deals with the ill-posed and inverse features of transferring input gravitational information in the form of Newtonian volume integral values to geological output characteristics of the density contrast function. Some properties of the Newton volume integral are recapitulated. Reproducing kernel Hilbert space regularization techniques are studied (together with their transition to mollified variants) to provide geological contrast density distributions by downward continuation from terrestrial and/or spaceborne data. (Received September 24, 2017)