

DENSITY AND STRESS DIFFERENCES IN THE MOON: J.Arkani-Hamed, Dept. Phys. Arya-Mehr Univ. of Tech., Tehran, Iran.

Because of the strong abnormal behavior of the coefficients of the 13th degree spherical harmonics of the lunar gravitational potential presented by Michael and Blackshear(1), these coefficients were excluded in the computation of the density distribution inside the earth(2). Recently Michael and Blackshear(3) corrected their coefficients(C13,10; S13,10). The new values make the correlation of the two different expressions of the lunar gravitational potential(1,4) to be reasonable, which justifies the inclusion of the 13th degree harmonics in the density calculation. In the present paper a new model is presented for the lateral variations of the density inside the Moon. The stress differences associated with the variations of density indicate that the upper 600 Km of the lunar interior has been quite strong within the last 3 b.y., and they support the mascon formation model proposed by the author(5).

(1)- Michael, W.H. and Blackshear, W.T. 1972, The Moon, 3, 388-402.

(2)- Arkani-Hamed, J. 1973, The Moon, 7, 84-126.

(3)- Michael, W.H. and Blackshear, W.T. 1973, The Moon, 6, 512.

(4)- Michael, W.H. and Blackshear, W.T. 1969, 12th Planetary meeting of COSPAR.

(5)- Arkani-Hamed, J. 1973, Proc. 4th Lunar Sci. Conf., 2673-2684.