Numerical calculations of electromagnetic contributions to baryon masses PHUOC HA, Towson University — We calculate numerically the electromagnetic contributions to the baryon masses which we analyzed recently using the heavy-baryon approximation in chiral effective field theory and methods developed in our earlier analyses of the baryon masses and magnetic moments. We find that the effects of the quark masses, the Coulomb and moment-moment interactions, and the mesonic corrections account fairly well for a pattern of coefficients in a mass-difference Hamiltonian that describes well the accurately known baryon mass splittings.

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