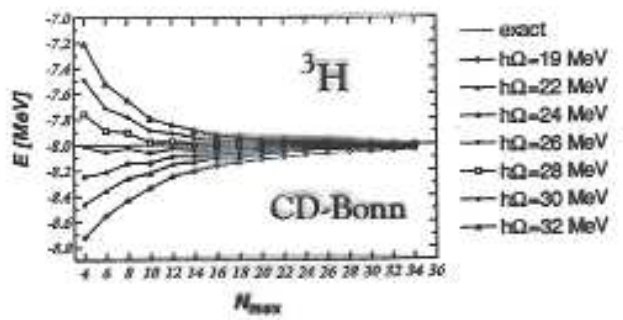

FIG. 1. The dependence of the ^{3}H ground-state energy, in MeV, on the maximal number of HO excitations allowed in the model space in the range from $N_{max}=4$ to $N_{max}=34$. The two-body effective interaction utilized was derived from the CD-Bonn *NN* potential. Results for $\hbar\Omega=19$, 22, 24, 26, 28, 30, and 32 MeV are presented. The dotted line represents the exact result of -8.00 MeV from a 34-channel Faddeev-equation calculation [21].

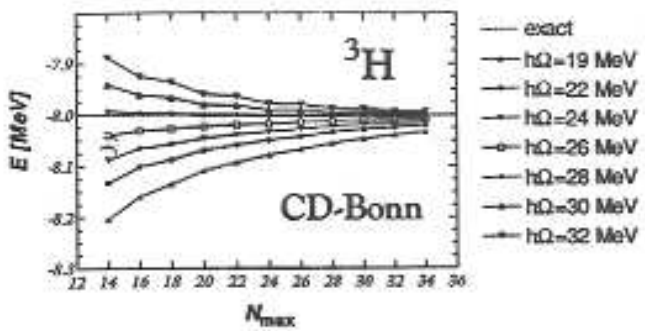

FIG. 2. The dependence of the ^{3}H ground-state energy, in MeV, on the maximal number of HO excitations allowed in the model space. The same points as in Fig. 1 for the range from $N_{max}=14$ to $N_{max}=34$ are presented on a larger scale.

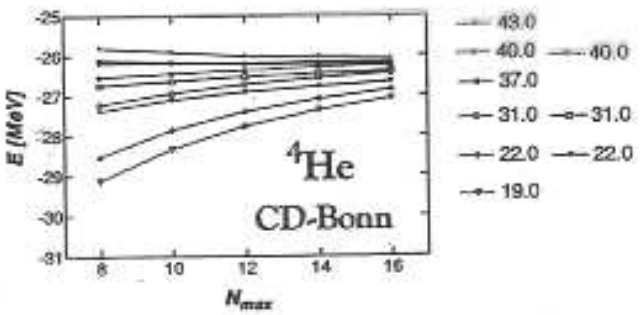

FIG. 6. The dependence of the ^{4}He ground-state energy, in MeV, on the maximal number of HO excitations allowed in the model space in the range from $N_{max}=8$ to $N_{max}=16$. The two-body (dotted lines) and three-body (full lines) effective interactions utilized were derived from the CD-Bonn *NN* potential. Results for $\hbar\Omega=19$, 22, 31, 37, 40, and 43 MeV are presented.

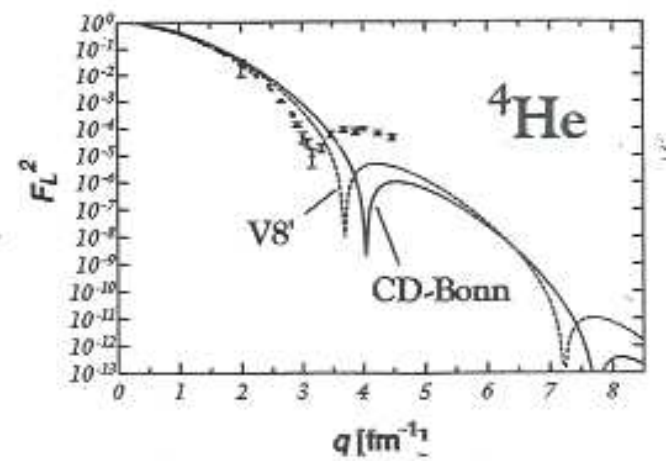

FIG. 12. The elastic EM charge form factor of ^{4}He calculated in the impulse approximation. Results obtained using the Argonne V8' (dotted line) and CD-Bonn (full line) *NN* potentials are compared. The calculations were performed using three-body effective interaction in the model space characterized by $N_{max}=16$ and $\hbar\Omega=22$ MeV.