

# Vertex Functions and Asymptotics of Nuclear Bound-State Wave Functions

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The talk deals with vertex functions representing matrix elements of two-fragment ( $a \rightarrow 1+2$ ) or three-fragment ( $a \rightarrow 1+2+3$ ) virtual decays of a bound nuclear system  $a$ . Much attention is given to the on-shell vertex functions corresponding to the case when all external particles (fragments) are on the mass shell. The relations are established between the on-shell vertex functions and the coefficients multiplying the asymptotic forms of wave functions and overlap integrals in two- or three-fragment channels. It is shown that the on-shell three-fragment vertex functions determine the contributions to the amplitudes of processes described by the Feynman diagrams containing loops. The anomalous asymptotics of the wave functions in the two-fragment channels is discussed.