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**A low-frequency asymptotic expansion of a strong solution
to an initial-boundary value problem**

We study a low-frequency asymptotic expansion for a unique strong solution to an initial-boundary value problem of a semi-linear wave equation. This equation admits space-time dependent coefficients and a memory boundary-like antiperiodic condition. For some small parameters from coefficients of this semi-linear wave equation and of boundary conditions, we approximate a unique strong solution to this problem by a polynomial of these parameters; and coefficients of this polynomial are strong solutions of a sequence of well-defined linear initial-boundary value problems.