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On the weak limit of rapidly oscillating waves. (English) Zbl 0646.73016
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A possible representation of a rapidly oscillating wave can be represented as

$$U^\epsilon(x, t) = W_N(\theta(x, t)/\epsilon; \kappa(x, t), \omega(x, t)) + O(\epsilon),$$

where $W_N(\cdot, \kappa, \omega) : T^N \rightarrow R$ is defined on the N -torus T^N and the N -vectors θ, κ, ω are real-valued functions of x and t related by $(\partial\theta/\partial x) = \kappa, (\partial\theta/\partial t) = \omega$. An averaging theorem is proved on the so-called locally non-resonant curves $\kappa : R \rightarrow R^n$.

Reviewer: [V.Răsvan](#)

MSC:

[74J99](#) Waves in solid mechanics

[35Q99](#) Partial differential equations of mathematical physics and other areas of application

[74J20](#) Wave scattering in solid mechanics

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