FYS3410 - Module IV

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7.

A truncated taylor series for the energy as a function of wavevector can be stated as

$$E(k) = E(K_0) + \frac{\mathrm{d}E}{\mathrm{d}k}(k - k_0) + \tfrac{1}{2}\frac{\mathrm{d}^2 E}{\mathrm{d}k^2}(k - k_0)^2 + ...$$