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In-plane elastic wave propagation in nanoscale periodic layered piezoelectric structures

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Highlights

- The propagation of in-plane waves incident at arbitrary angles in nanoscale periodic layered piezoelectric structures are analyzed.
- A cut-off frequency appears when the size-effect is taken into account and its value depends on the QP-wave for mixed in-plane modes.
- The cut-off frequency can be tuned by the size-effect and the piezoelectric constant.
- The size-effect (R) has influence on the position of the mode conversion and the effect of the mode conversion becomes weaker with the increase of R .

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