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Trading level to frequency of overflights: Does the physical concept of energy equivalence also fit for psychological and physiological reactions to aircraft noise?

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Scientific information is insufficient to allow decision if the physical conversion of noise level to frequency (energy equivalence) is also applicable for psychological and physiological effects of aircraft noise. Observations from large airports indicate over-energetic psychological impact. Due to the high practical relevance further investigations are necessary. Take-off recordings (Airbus 320) were played back 3, 9, 15, 21 or 27 times during 30minute sessions. Overflight-intensity was changed electronically to achieve 65 or 70dB overall Leq during the 30 min. periods. Loudness, annoyance, interference with domestic quality and several physiological and psychological parameters of activation and stress were recorded continuously during the experiments.