

Can weekly noise levels of urban road traffic, as predominant noise source, estimate annual ones?

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The effects of noise pollution on human quality of life and health were recognised by the World Health Organisation a long time ago. There is a crucial dilemma for the study of urban noise when one is looking for proven methodologies that can allow, on the one hand, an increase in the quality of predictions, and on the other hand, saving resources in the spatial and temporal sampling. The temporal structure of urban noise is studied in this work from a different point of view. This methodology, based on Fourier analysis, is applied to several measurements of urban noise, mainly from road traffic and one-week long, carried out in two cities located on different continents and with different sociological life styles (Cáceres, Spain and Talca, Chile). Its capacity to predict annual noise levels from weekly measurements is studied. The relation between this methodology and the categorisation method is also analysed. © 2016 Author(s).