

## 풍력 발전기 소음의 진폭변조가 소음 인지와 불쾌감에 미치는 영향

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### Effect of amplitude modulation in wind turbine noise on noise perception and annoyance

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**Abstract** : Wind turbines produce aerodynamic noise which fluctuate periodically at a blade passing frequency. This sound characteristic is called amplitude modulation, or swishing sound. Several previous studies claimed that this amplitude modulation has a possibility to increase noise annoyance. Thus, this study performed a listening test to find the relationship between the amplitude modulation in wind turbine noise on noise annoyance. The stimuli for the listening test was recorded from a 1.5MW wind turbine in Jeju island. The result of the listening test shows that the amplitude modulation in wind turbine noise significantly increase noise annoyance. Moreover, this study analytically examined the effect of amplitude modulation on noise perception. The result indicates that amplitude modulated sound can be easily perceived even though the background noise level is higher than the sound level of the signal.

**Key words** : wind turbine noise(풍력발전기 소음), amplitude modulation(진폭 변조)  
listening test(청감 실험), noise annoyance(소음 불쾌감)

### 후 기

본 연구는 지식경제부의 지원으로 수행한 에너지자원인력양성사업과 지식경제부·한국에너지기술평가원 지정 신재생에너지 기술정책연구센터의 연구결과입니다.

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