

Light scattering technique for measuring air pollutant particle concentration

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Abstrak

A non-mechanical method of measuring temporally coherent light, which may be dominated by incoherent background radiation, has been developed. The measurement method is based on the modulated signal produced by the temporally coherent radiation through a LiTaO₃ crystal. In the study, the coherent and incoherent lights are combined. To detect coherent light in the presence of incoherent radiation, the crystal is modulated with 2 KHz to 25 KHz sinusoidal signals. To obtain good modulation, the crystal is biased with 150-volt dc. By observing the detector output, it can be seen that only the crystal modulates the coherent light is modulated by crystal.