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**Iwai**

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(71) Applicant: **HAMAMATSU PHOTONICS K.K.**,  
Hamamatsu-shi, Shizuoka (JP)

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(72) Inventor: **Hidenao Iwai**, Hamamatsu (JP)

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(73) Assignee: **HAMAMATSU PHOTONICS K.K.**,  
Hamamatsu-shi, Shizuoka (JP)

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*Primary Examiner* — Christopher S Kelley  
*Assistant Examiner* — Asmamaw G Tarko

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(74) *Attorney, Agent, or Firm* — Drinker Biddle & Reath  
LLP

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(57) **ABSTRACT**

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An observation device is provided with a light source section,  
a detection section and an arithmetic operation section. The  
light source section emits light to a moving object from mul-  
tiple directions. a detection section is disposed on a predeter-  
mined plane such that scattered light having an identical  
scattering angle enters at an identical position, outputs data  
temporally changing at a frequency corresponding to an  
amount of Doppler shift of light that reaches at each position  
on the predetermined plane. An arithmetic operation section  
performs a one-dimensional Fourier transform with respect to  
time variables, for data having a position in the first direction  
on the predetermined plane, a position in the second direction  
on the predetermined plane, and a time as variables, and  
extracts data having an identical incident angle relative to the  
object from the Fourier-transformed data, on the basis of  
Doppler Effect.

(52) **U.S. Cl.**  
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**G02B 21/08** (2013.01); **G02B 21/361** (2013.01)

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