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## Development of an Image Analysis Method for Pepperpot Emittance Monitors

The Nishina Center for Accelerator Science uses a pepperpot emittance monitor to measure the emittance of low-energy beams from ion sources. PPEM does not require moving slits, etc. Therefore, four-dimensional information of  $(x, x', y, y')$  can be measured in a short time. On the other hand, it is difficult to identify the origin of the spot. We are therefore attempting to identify the origin of the spots by moving the pepperpot mask. Although this method has been effective to a certain extent, the position of the spot also shifts as the mask is moved. When the position of the spot moves, the problem arises that spots with large angles can be confused with other origins. If the analysis is performed as is, the shape will be different from the original phase space distribution. In this study, we introduced a method to track the movement of the spot when the pepperpot mask is moved. The introduction of this method is expected to accurately identify the origin of previously confused spots. In this presentation, we will report on the proposal of the spot tracking method and its development status.

### Funding Agency

### Email Address

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Yes

### Presenter if not the submitter of this abstract

**Primary authors:** MORITA, Yasuyuki (RIKEN); NAGATOMO, Takashi (RIKEN Nishina Center); NAKASHIMA, Yuta (IDS, Osaka University)

**Presenter:** MORITA, Yasuyuki (RIKEN)

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