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Development of Electron Multiplier Tube as muon monitor

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The T2K experiment searches for CP violation of neutrinos.
Since off-axis beams are used to reduce the energy spread of the beam, beam direction measurement is very desirable.
The T2K beam is monitored by measuring the muon decayed from pion.
In the future, we plan to increase the beam power in order to increase the statistics.
Then, there is a need for sensors with better radiation resistance and signal linearity than the current sensors (SI, IC) for muon monitors.
Therefore, we have developed an EMT (electron multiplier) as a sensor for a new muon monitor.
In this talk, we will present the development of EMT, including the electron beam irradiation test at ELPH and the muon beam irradiation test at J-PARC.

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