Global network of muon detectors and it’s performances

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We have constructed a global network of four multi-directional muon detectors in operation at Nagoya (Japan), Sao Martinho (Brazil), Hobart (Australia) and Kuwait City (Kuwait). This network can monitor the directional distribution of high-energy (˜50 GeV) galactic cosmic ray intensity over an entire sky of Earth. By analyzing the data automatically collected from each detector through the Internet on the real-time basis, we can precisely measure the cosmic-ray density (or the isotropic intensity) and streaming (or the anisotropy), both of which changes dynamically responding to the space weather variations in the near Earth space. Our preliminary analyses have already shown that we can deduce the geometry of the ICME from the observed density and streaming. In this paper, we analyze the initial data from the global network and evaluate its performances in monitoring the space weather.