Exposure age of the east of the Atacama Desert in northern Chile by cosmogenic Be-10 and Al-26

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Recently in-situ cosmogenic 10Be and 26Al are broadly used to determine the timing of aridity directly. In the Atacama Desert improving the knowledge of process of aridity is important to concern geological and global climatic events. However the direct dating of aridity in the Atacama Desert is few. Especially cosmogenic nuclides dating of the east of the Atacama Desert in northern Chile has not reported yet, where is extremely arid today. We report newly the surface exposure ages of the eastern area by cosmogenic 10Be and 26Al for pebble and bedrock samples. Our results indicate the development of aridity might be not simple history but complex one. It means that the intensity of aridity of the Atacama Desert depends on climatic fluctuations (cooling) after global climatic cooling in the early Pliocene and in the east area the latest aridity switched 1-0.6 Ma.