Monitoring cosmic ray intensities in Antarctica – an appropriate scientific activity

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The previous SANAP mission statement justified our scientific role in Antarctica as "to increase understanding of the natural environment and life in the Antarctic and Southern Ocean through appropriate (emphasis) science and technology." In this presentation I will show that monitoring experiments – sometimes brushed off as being insufficiently 'cutting edge', 'innovative' or 'strategic' in nature, are in fact appropriate for their purpose, and that they do deliver world-class scientific results. As primary example I will use the 20 January 2005 so-called Ground Level Enhancement observed by the Sanae neutron monitor, to show how this made an almost unique contribution to the theory of cosmic-ray acceleration on the sun. As secondary example I will talk about pilot and planned experiments to extract the 10Be isotope, as indicator of the cosmic-ray intensity in the past, out of shallow ice layers. Once again, this is an appropriate, affordable experiment, because it uses the specific nature of the ice wall in the vicinity of Sanae, which is difficult to find in other locations.