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Continuous Dust Profile (230 ka) from the EPICA Dronning Maud Land Ice Core - First Results

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The European Project for Ice Coring in Antarctica (EPICA) aims at reconstructing past climate and environmental conditions from two deep ice cores in Antarctica. The two cores are drilled at Dome C (EDC, 75˚06' S, 123˚ 21'E, 3233m a.s.l.) and in Dronning Maud Land (EDML, at 75˚00'S; 00˚04'E, 2892 m.a.s.l). Here we present the new dust data from the EDML core, which so far has been drilled and analysed to 2564 m depth. Insoluble microparticle concentrations have been measured continuously by a laser device linked to the Continuous Flow Analysis system as well as by a Coulter Counter system on discrete samples. The two data sets are presented and compared to EPICA Dome-C with respect to concentration and size distribution. A tentative age scale is proposed for EDML by matching the two dust records; this suggests an age of approx. 230 ka at 2564 m depth. Further, the seasonal variation of the dust concentration is used to infer the annual layer thickness at selected intervals from high resolution data sets.