The development of a continuous dust / loess stack (0-140 ka) for Central Europe by using the particle analysis and detection system RADIUS on ELSA sediment cores (Eifel, Germany)

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Overview

1. ELSA *Eifel Laminated Sediment Archive*

2. RADIUS  Event Detection System

3. The ELSA Dust / Loess Stack

4. Conclusions
ELSA
Eifel Laminated Sediment Archive

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Rapid Particle Analysis of Digital Images by Ultra-High-Resolution Scanning of Thin Sections

Sample Preparation

High Resolution Scanning of Thin Sections
RADIUS-2
image processing module

RADIUS-3
numeric particle analysis

1000 calculated distribution histograms per phase and thin section

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ELSA
Eifel Laminated Sediment Archive

RADIUS-3
Pattern Recognition System

Dust / Loess
Tephra
Turbidite
Organics
Suspension Layer

Seelos & Sirocko, 2005

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The ELSA Dust/Loess-Stack (Age Correlation)

AMS $^{14}$C and luminescence ages


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The C24 Event
Conclusion

C24 event can be seen as a 'package' of single strong dust storms, Not as a continuous loess/dust sequence

First continuous dust accumulations appear with the C22 event

Strongest dust accumulation phases in Central Europe during MIS4 and MIS2

Transition into C24 took only years/decades

Thank you

More Informations about RADIUS: www.particle-analysis.info