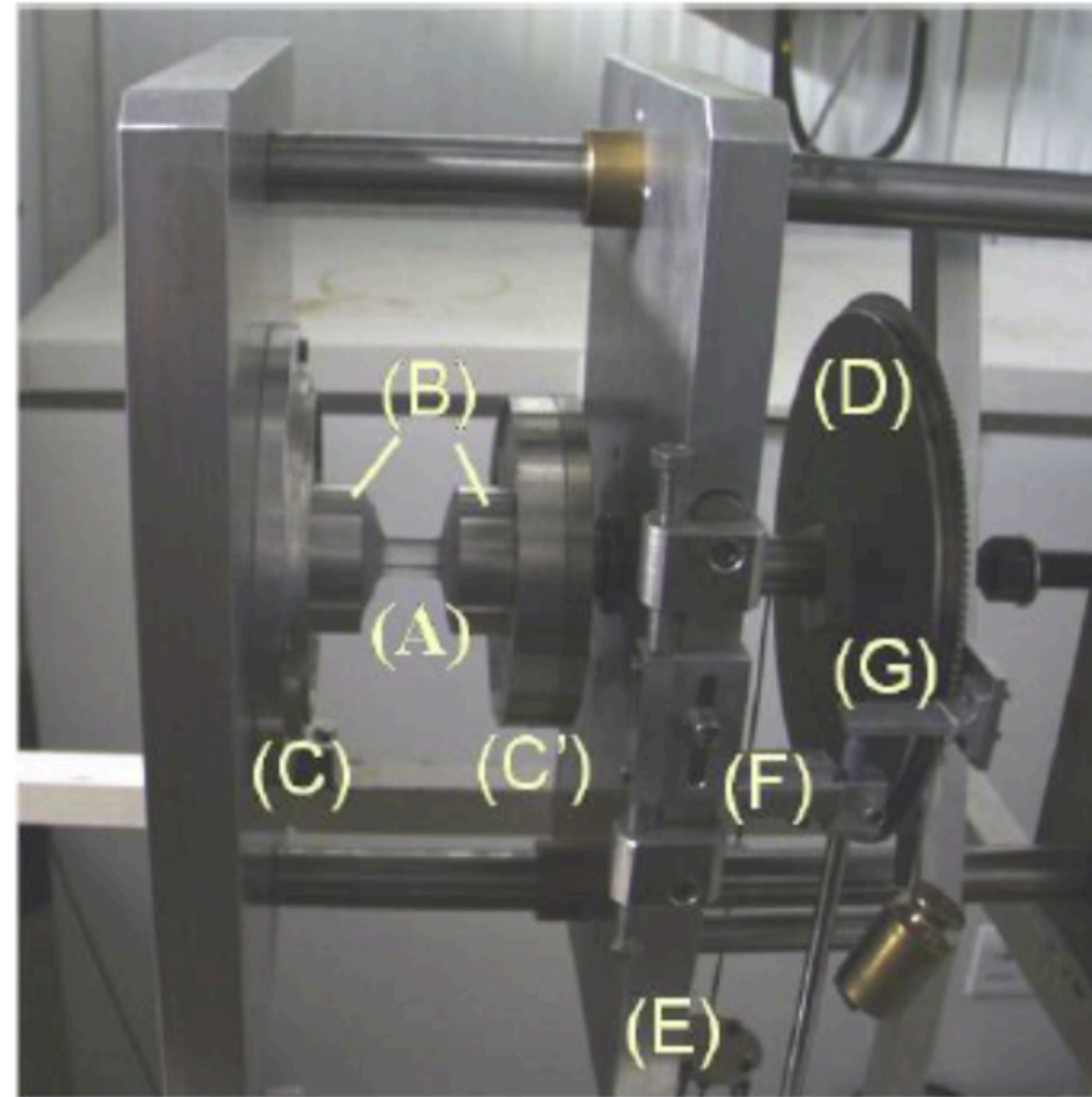


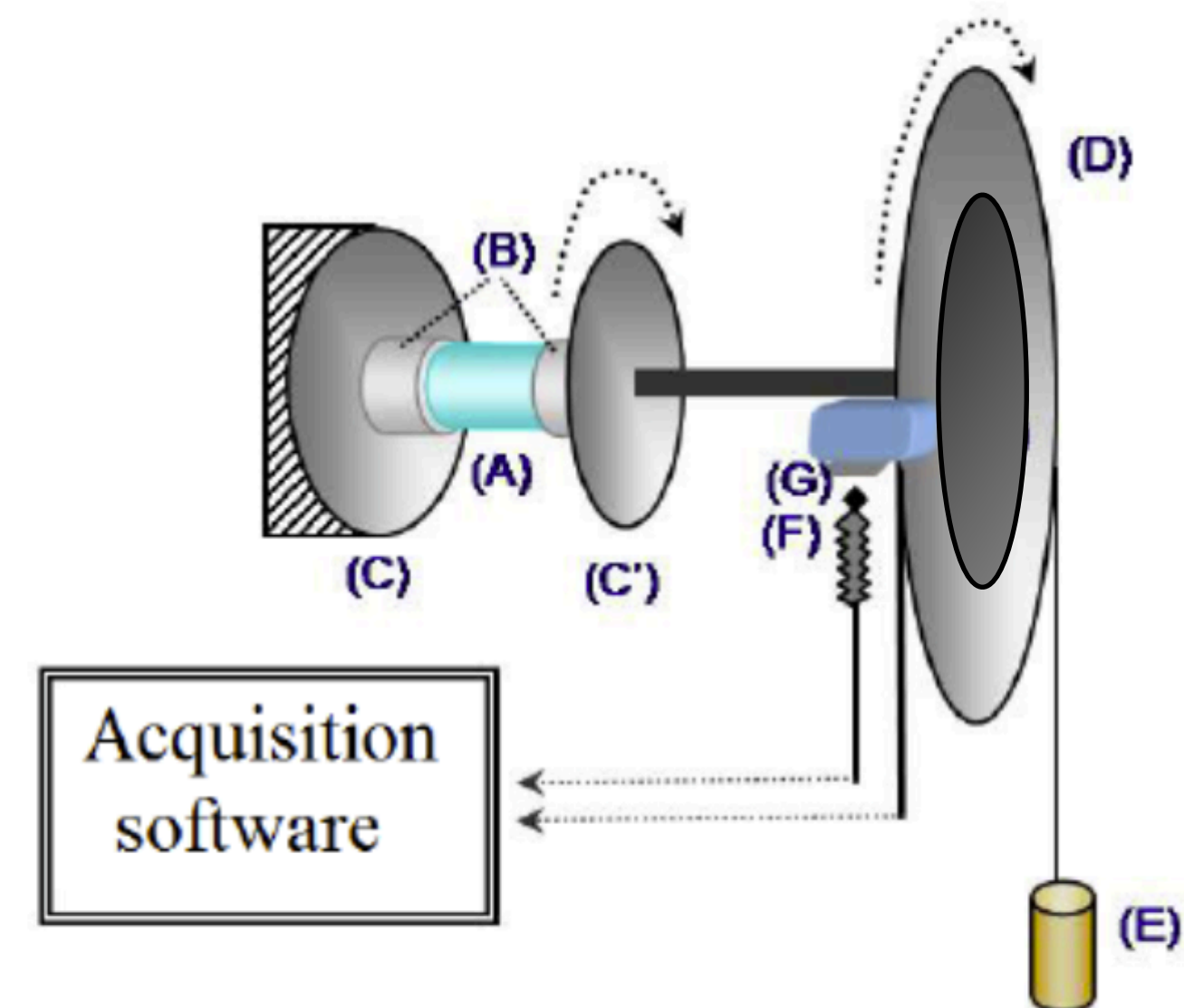
Supplementary material

Experimental apparatus

a) Photograph of the torsion apparatus



b) Schematic of the torsion apparatus



A : Sample

B : Sample support

C : Fixed plate

C' : Rotating plate with no axial movement

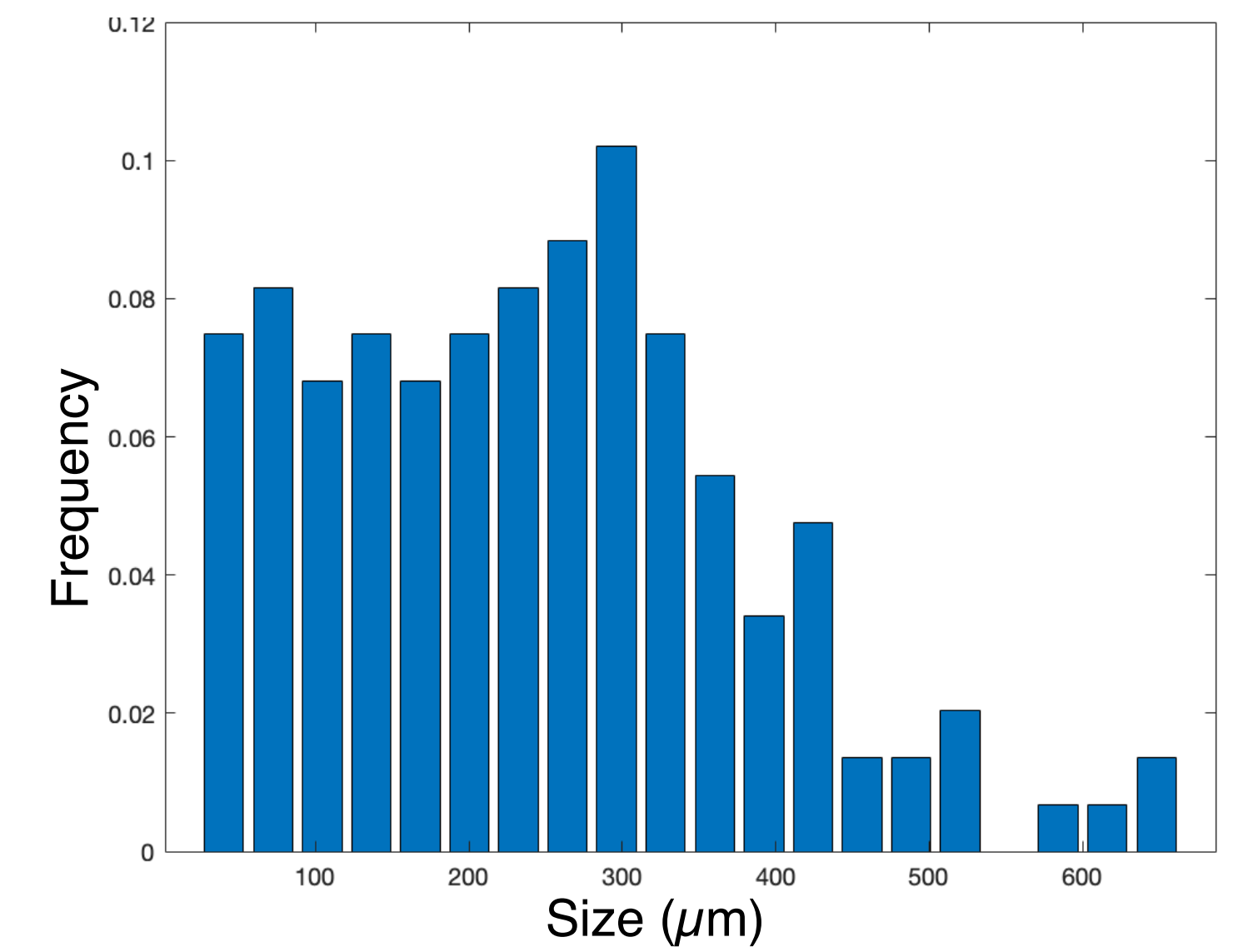
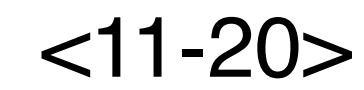
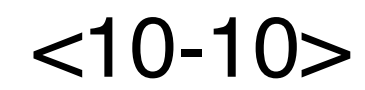
D : Rotating wheel solitary of C' with attachment for mass

E : Mass

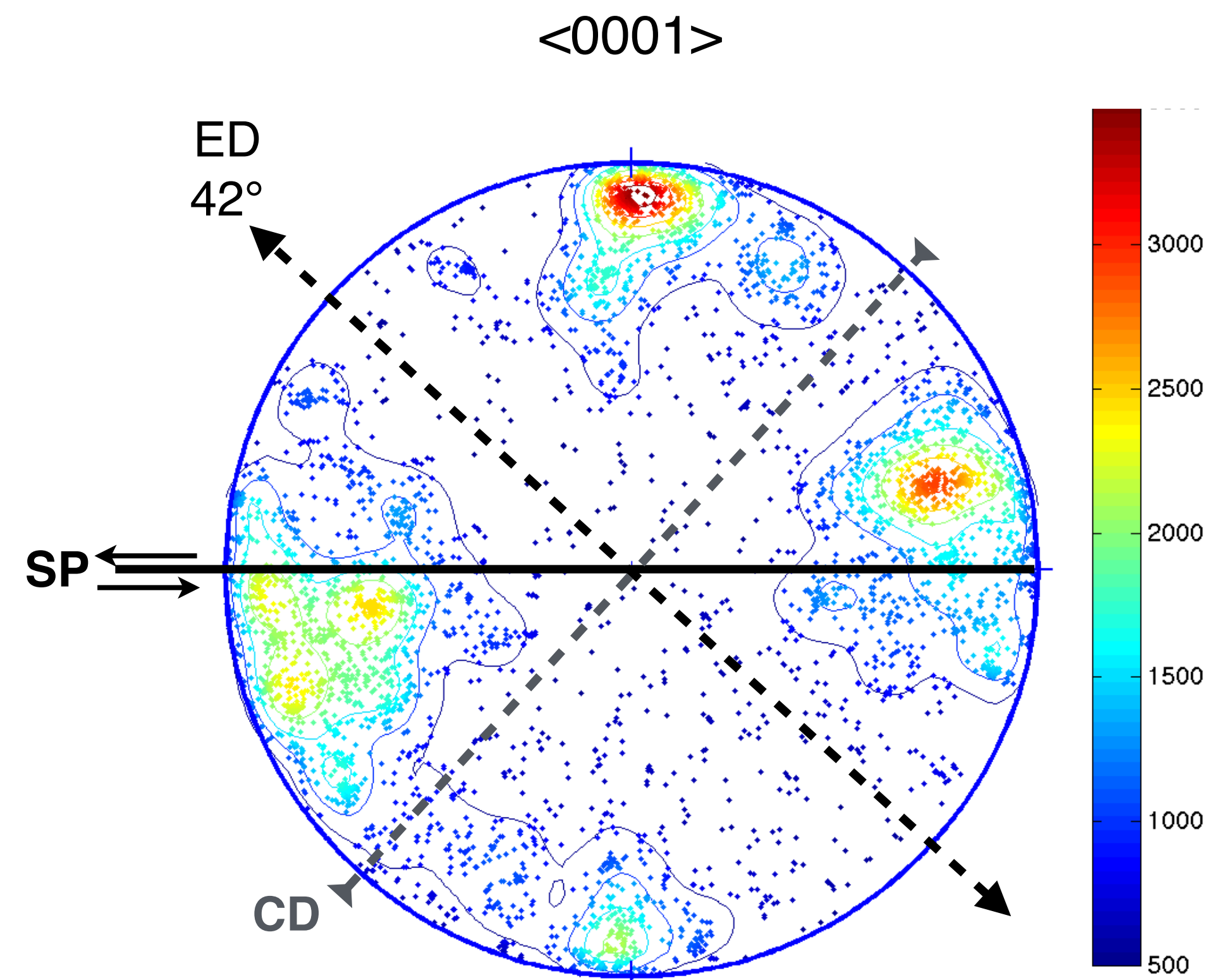
F : Fixed Linear Variable Differential Transformer (LVDT) to measure macroscopic strain (Optical rotary encoder device not shown here for clarity)

G : LVDT Stop interdependent of the rotating wheel D

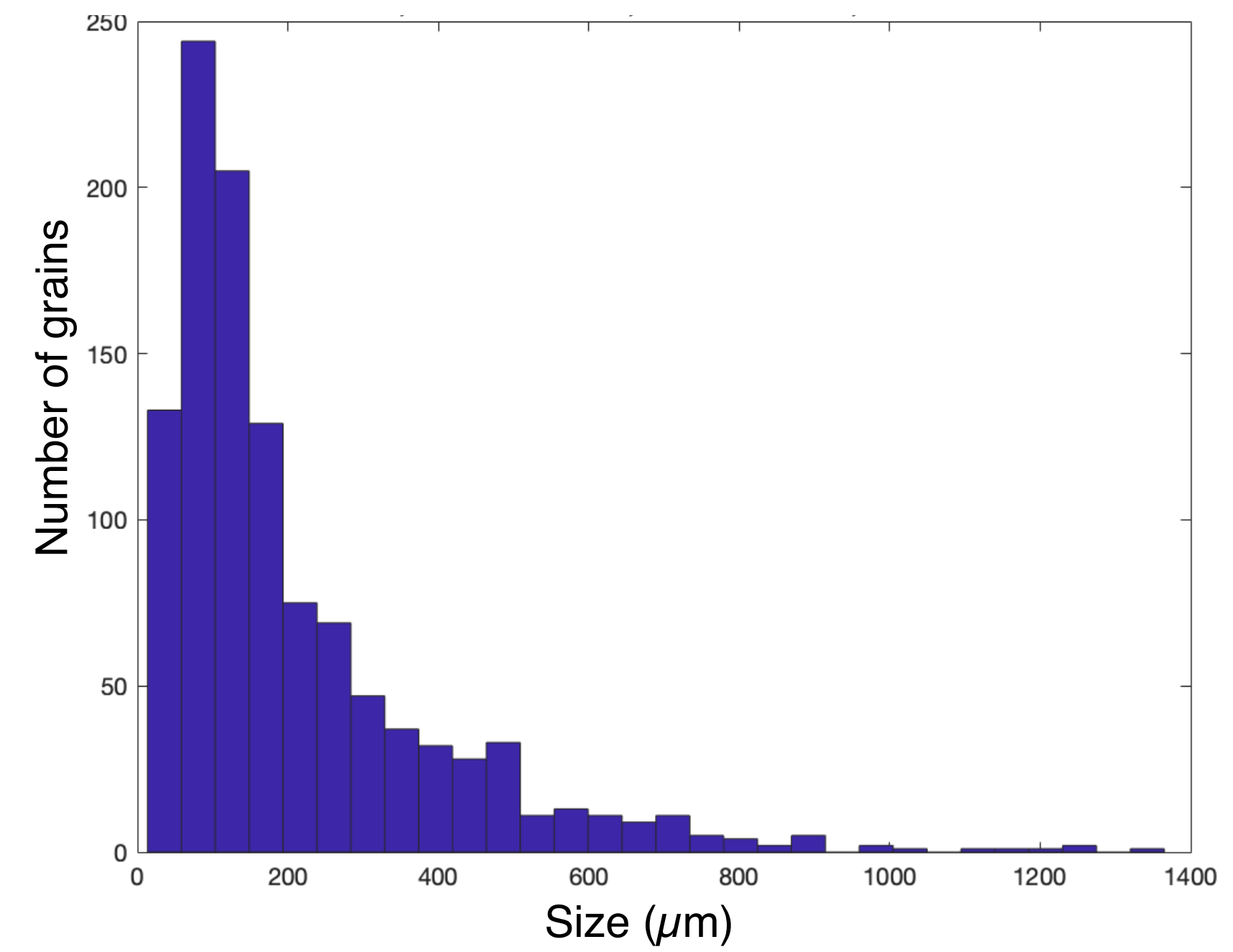
$\langle 0001 \rangle$



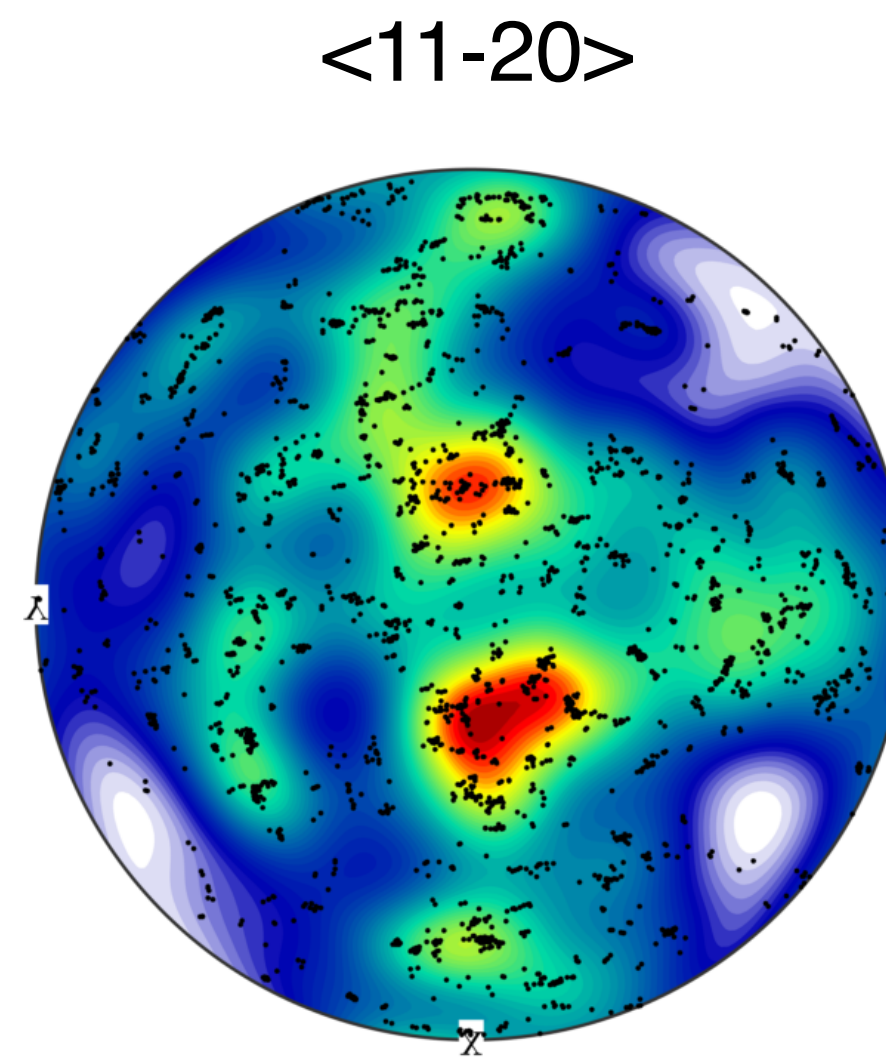
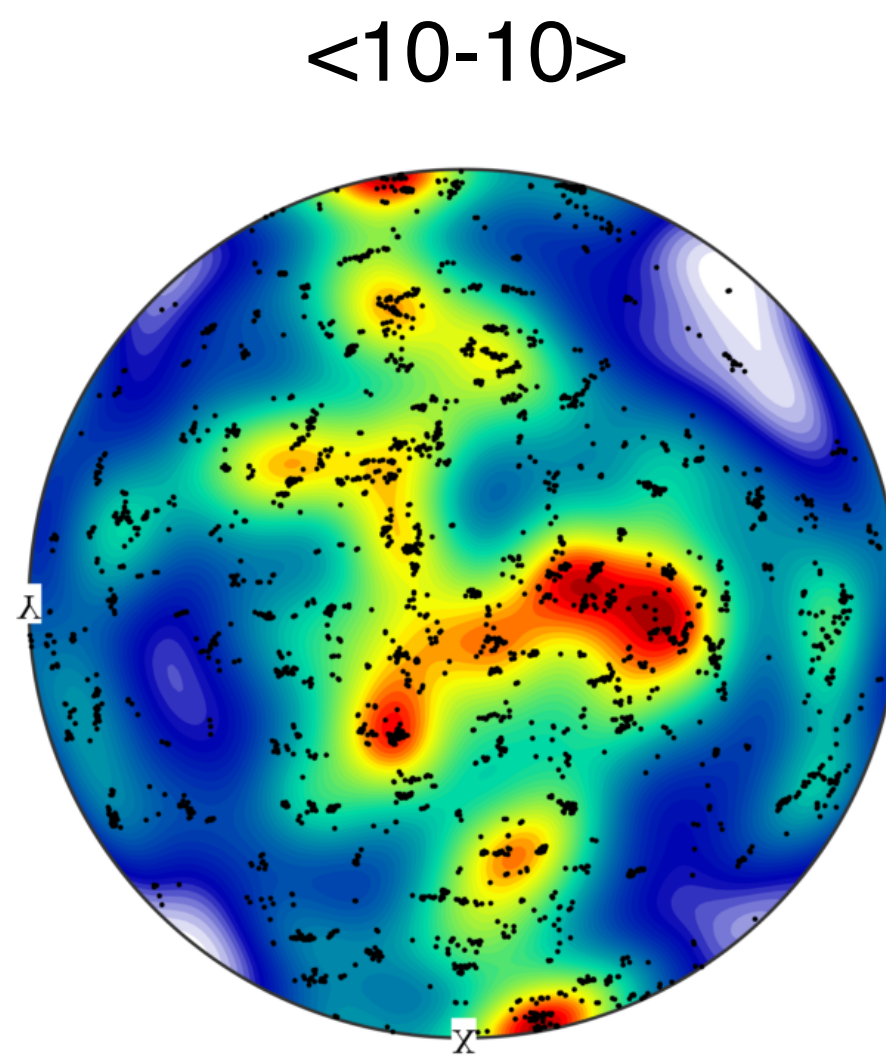
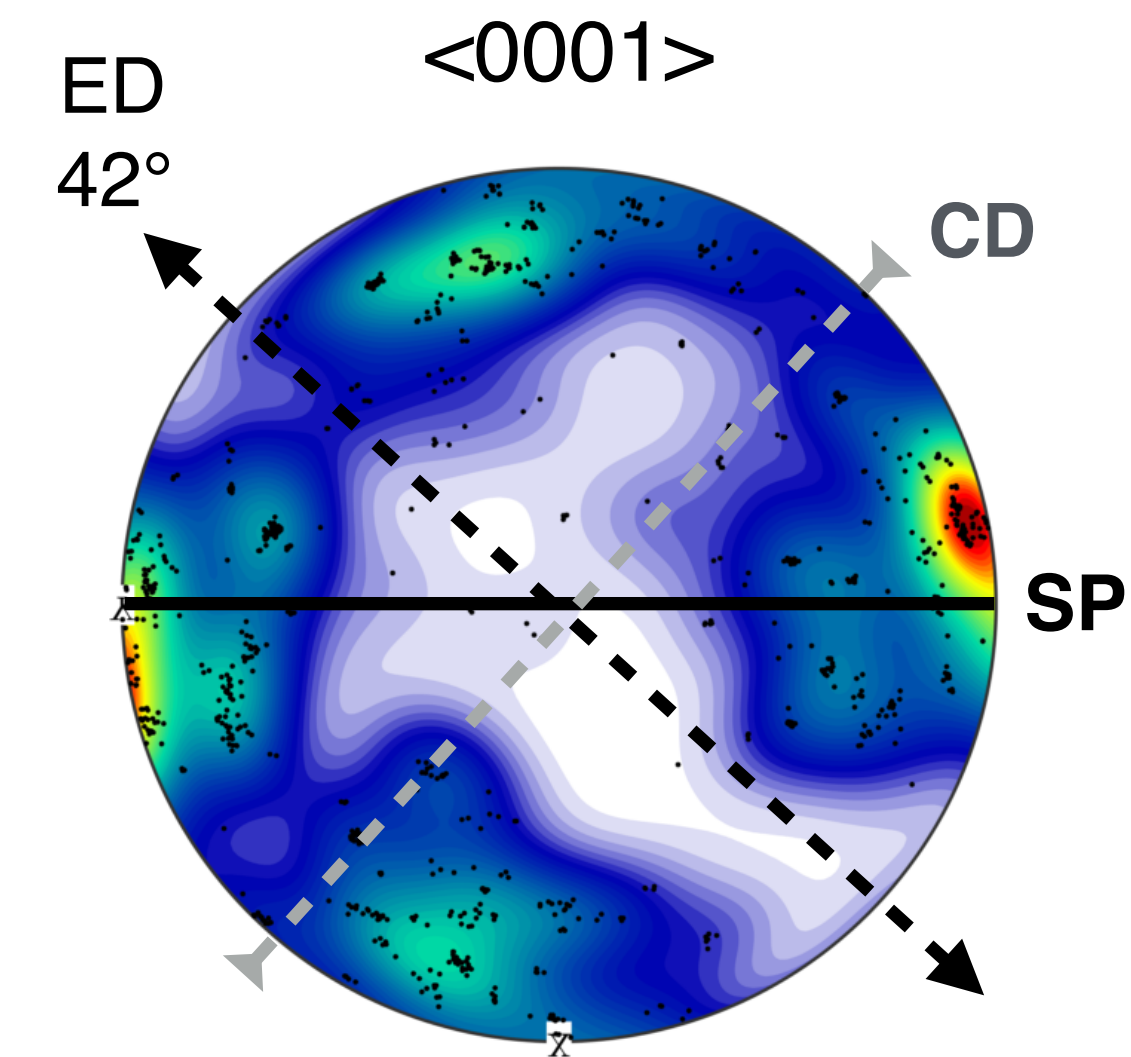
AITA



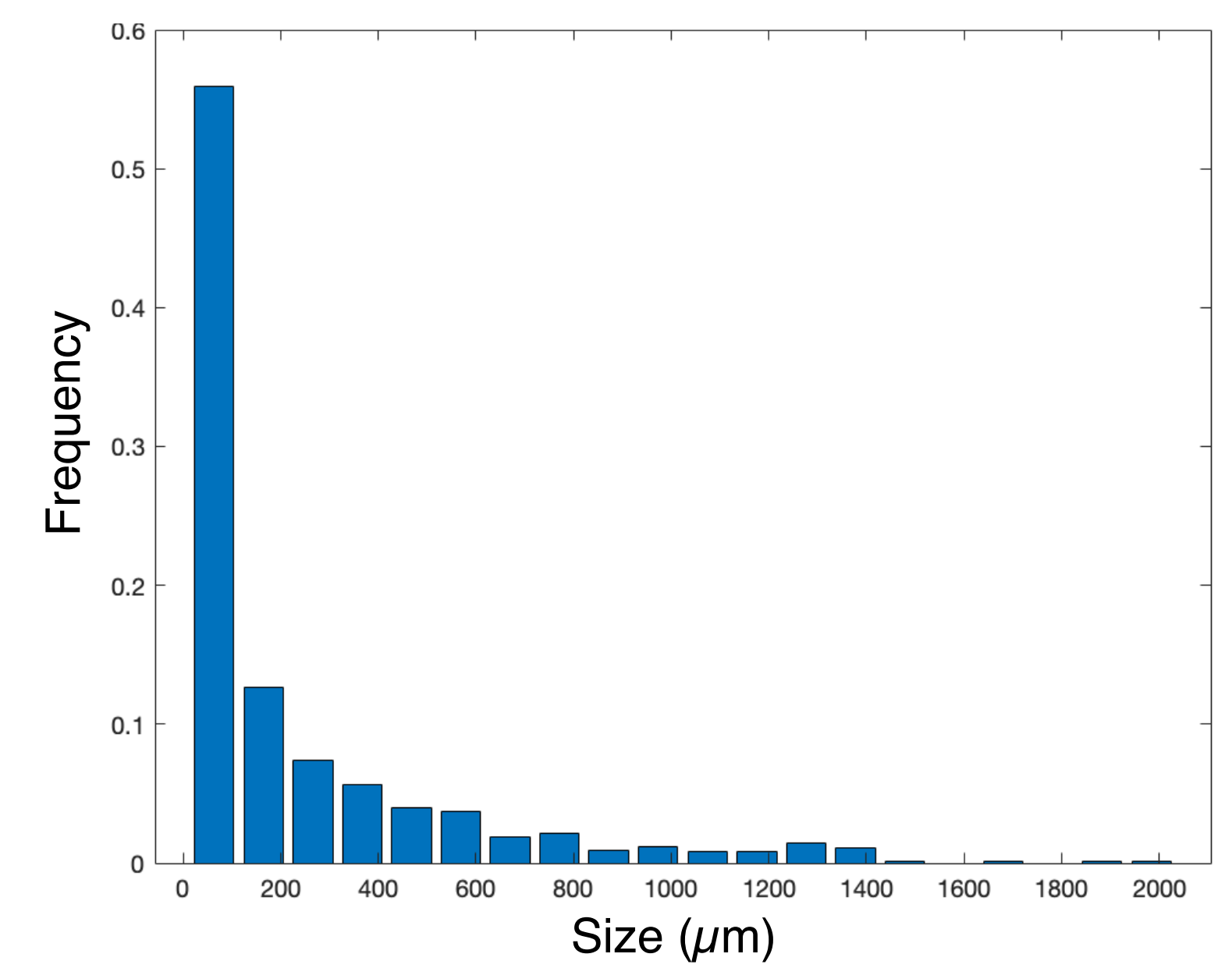
Grain size frequency



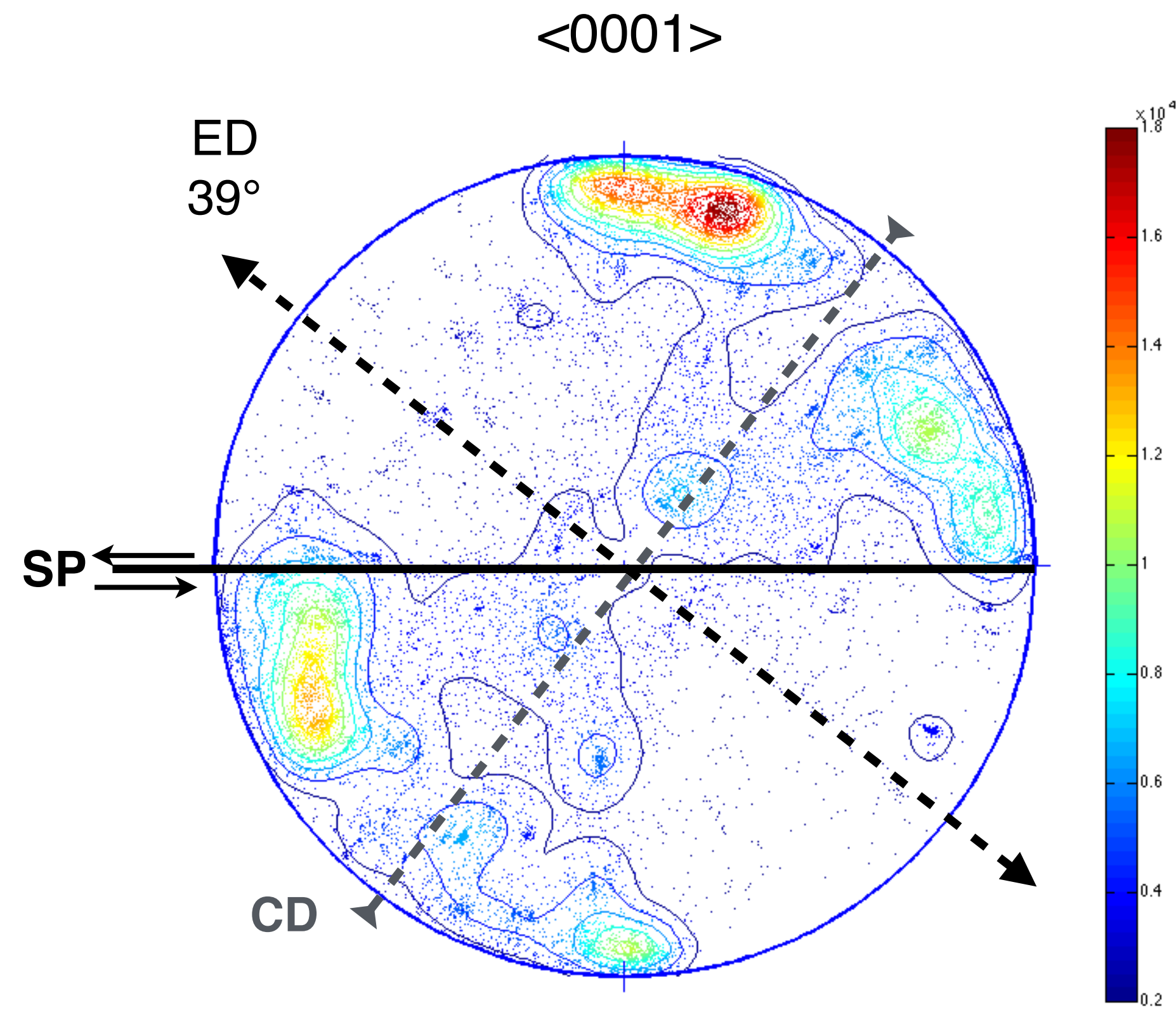
EBSD



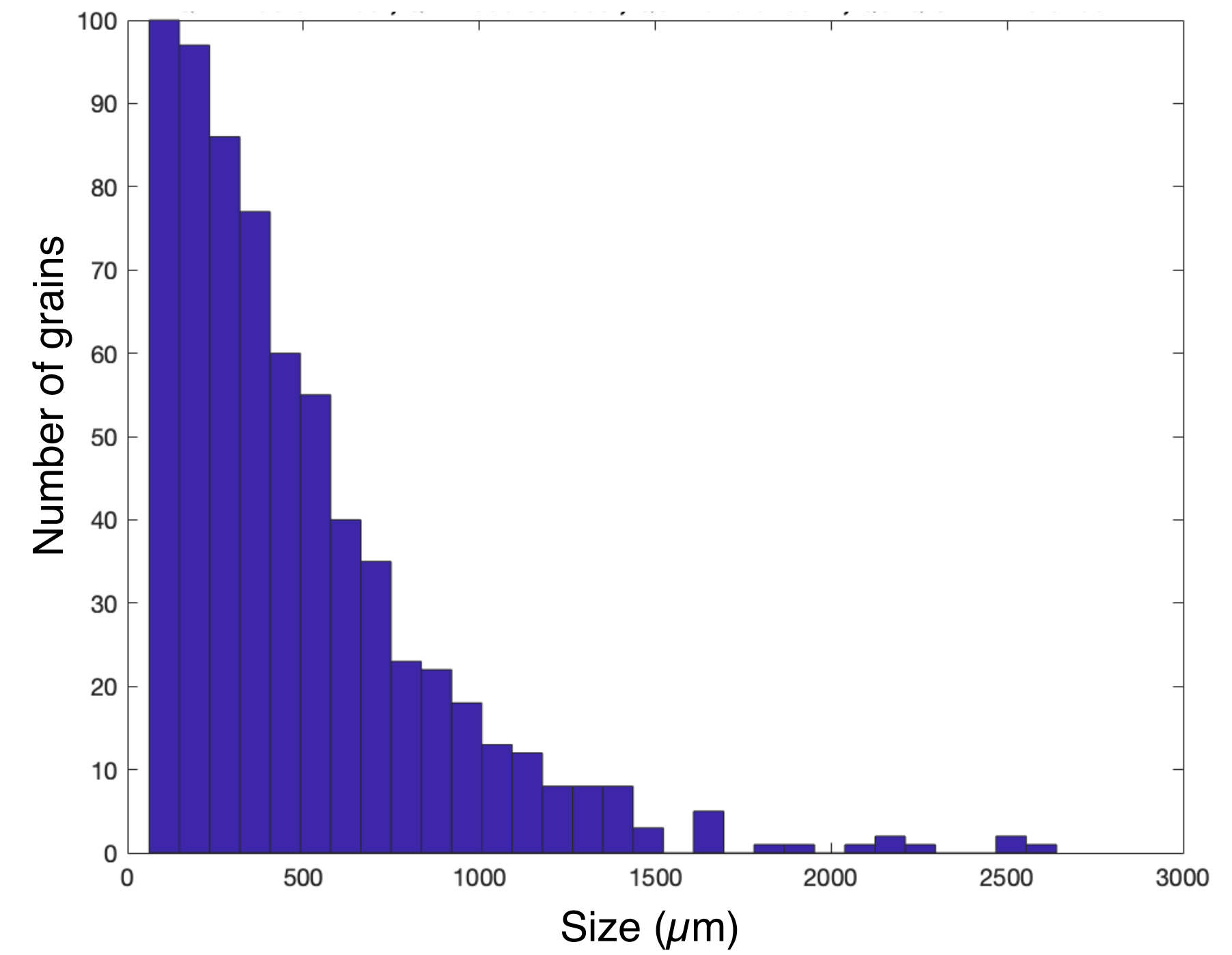
Grain size



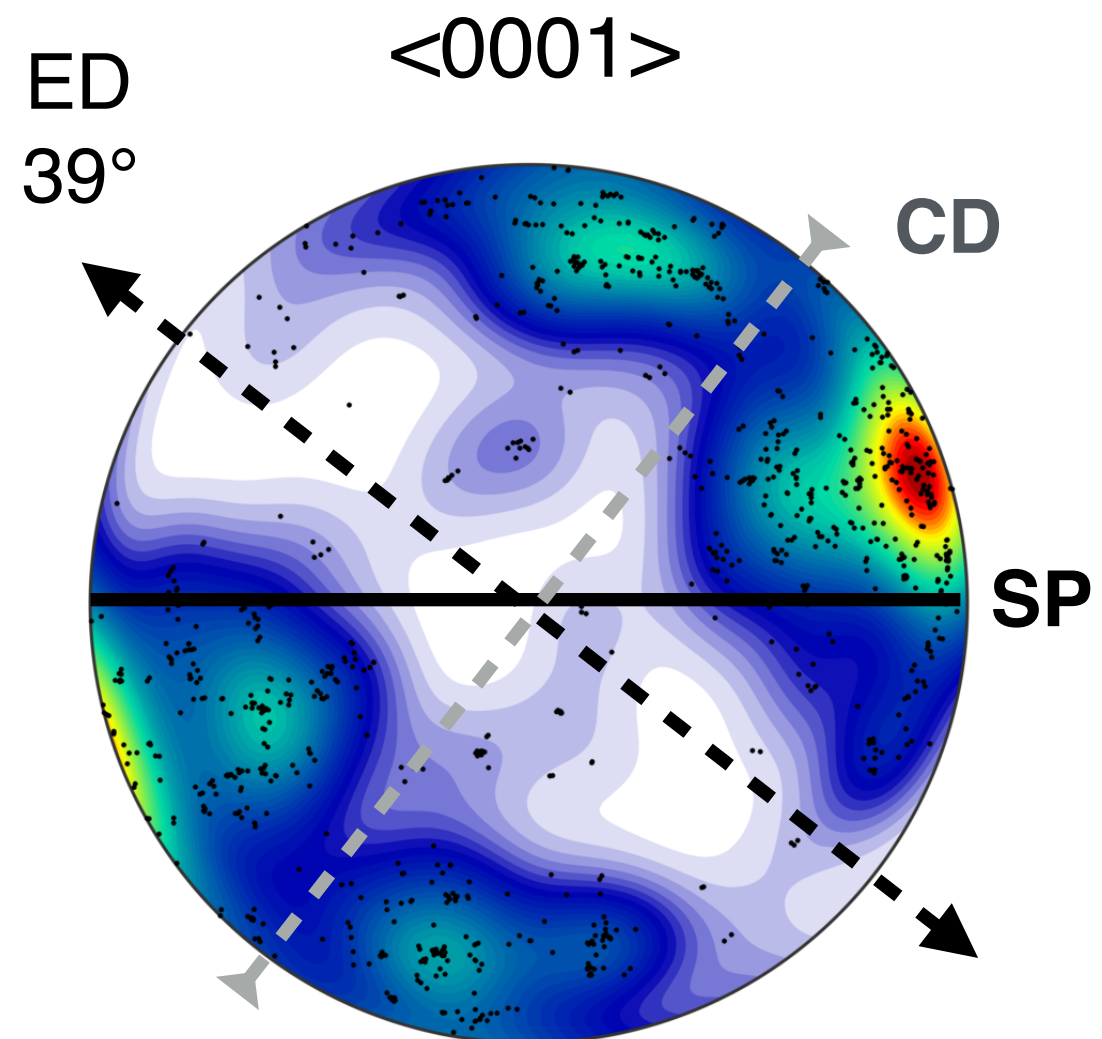
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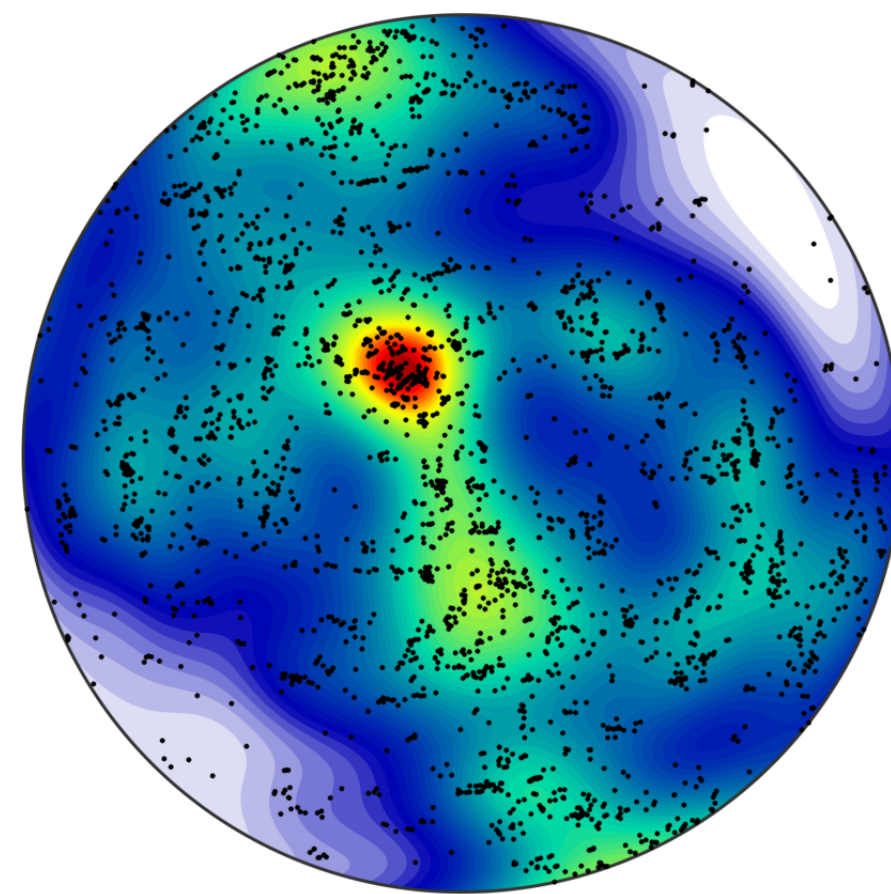
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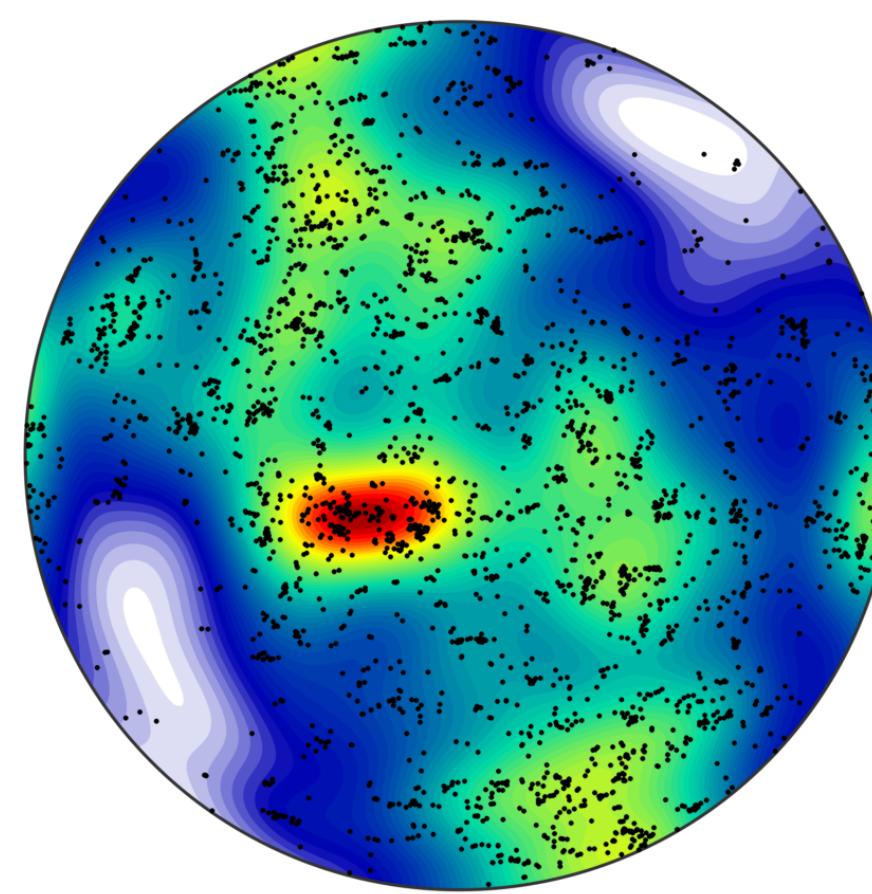
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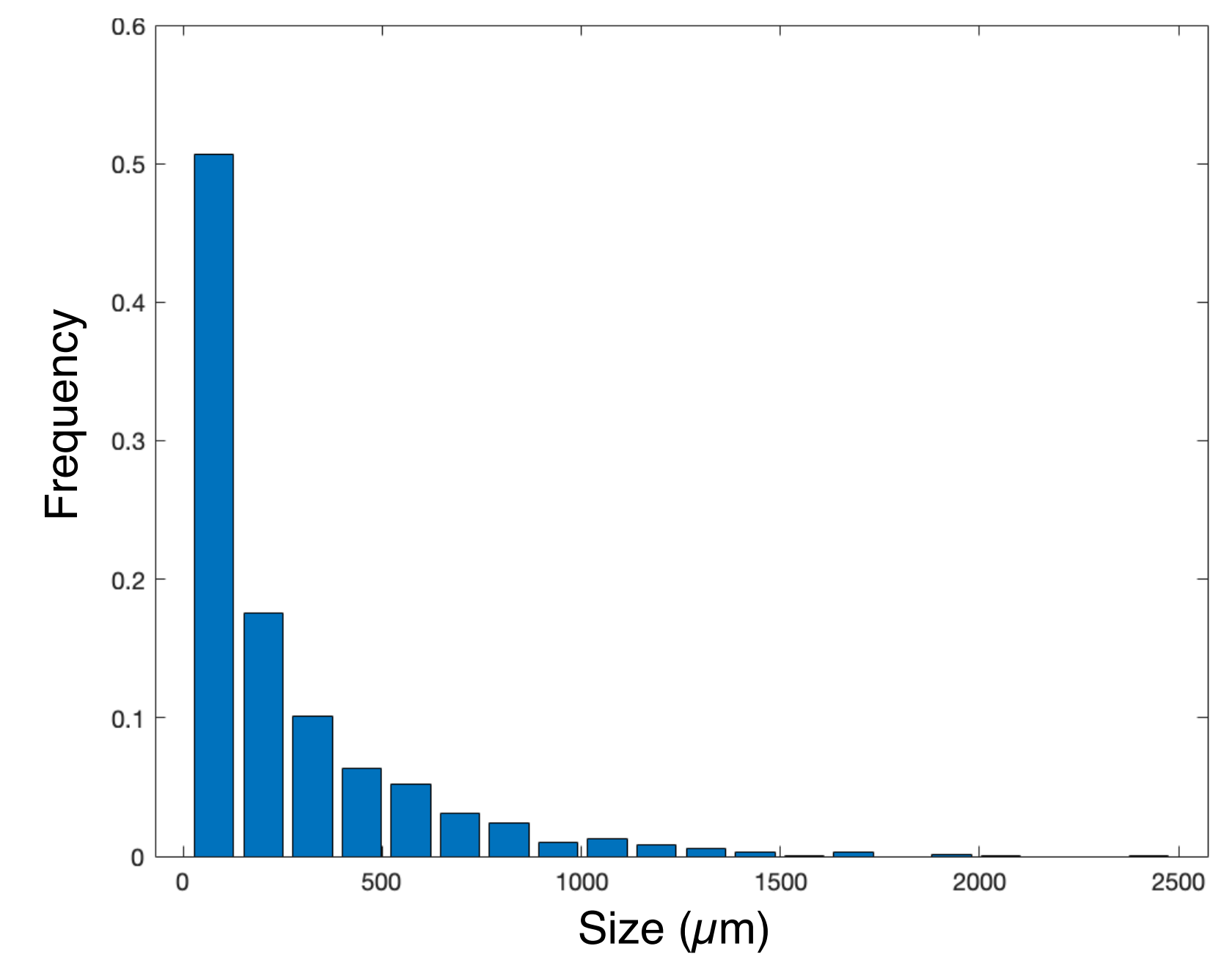
$\langle 10-10 \rangle$



$\langle 11-20 \rangle$



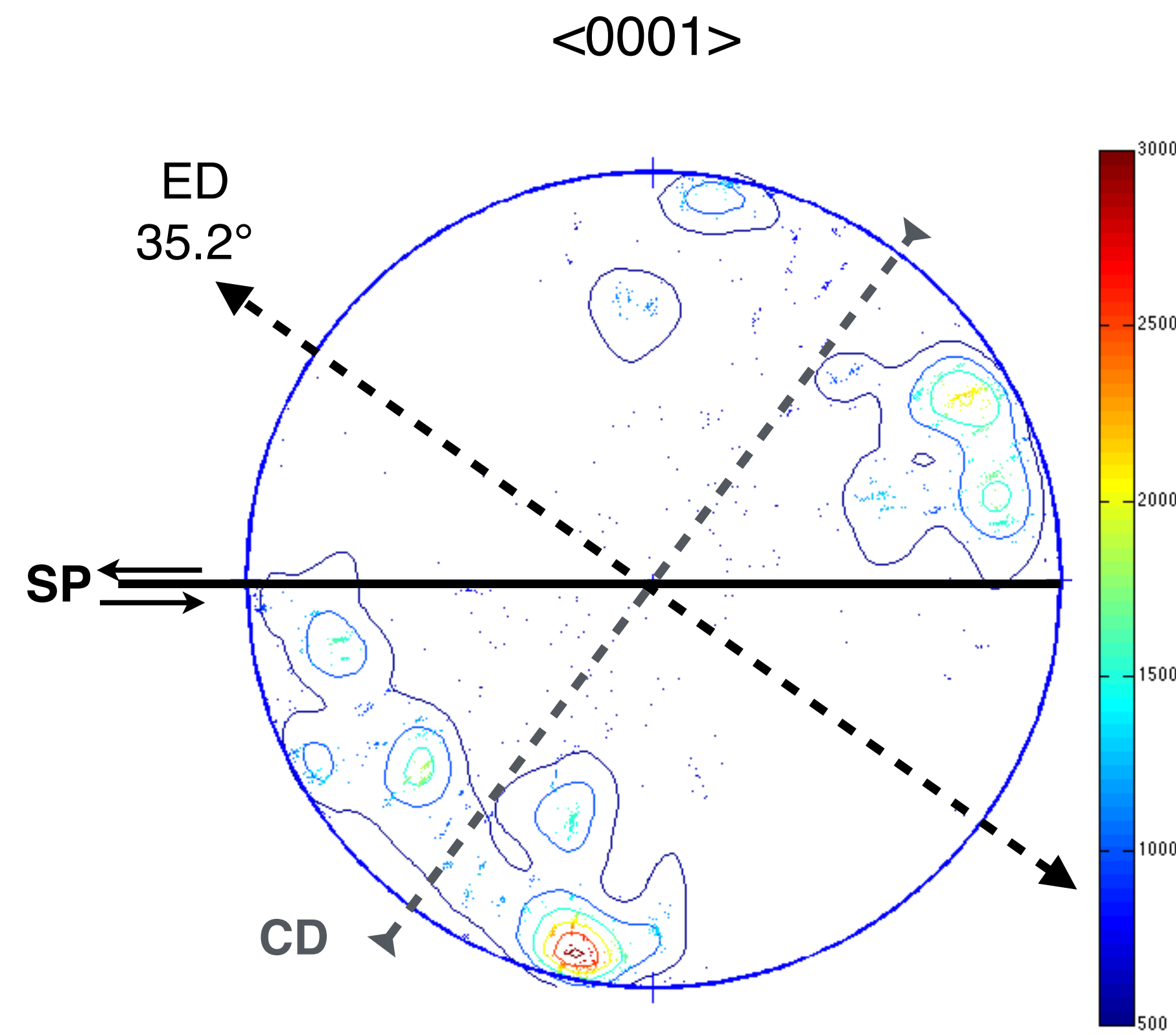
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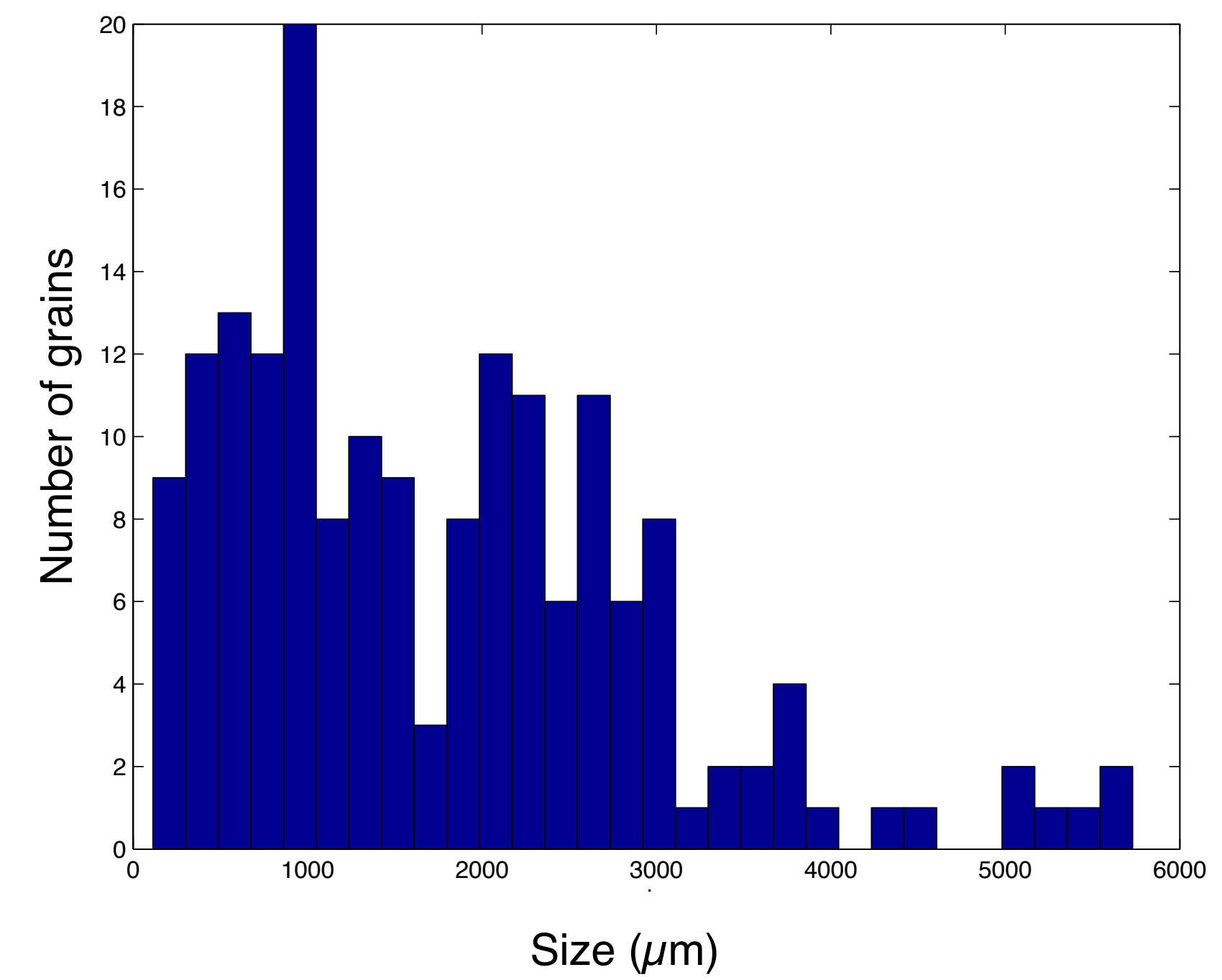
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Supplementary material

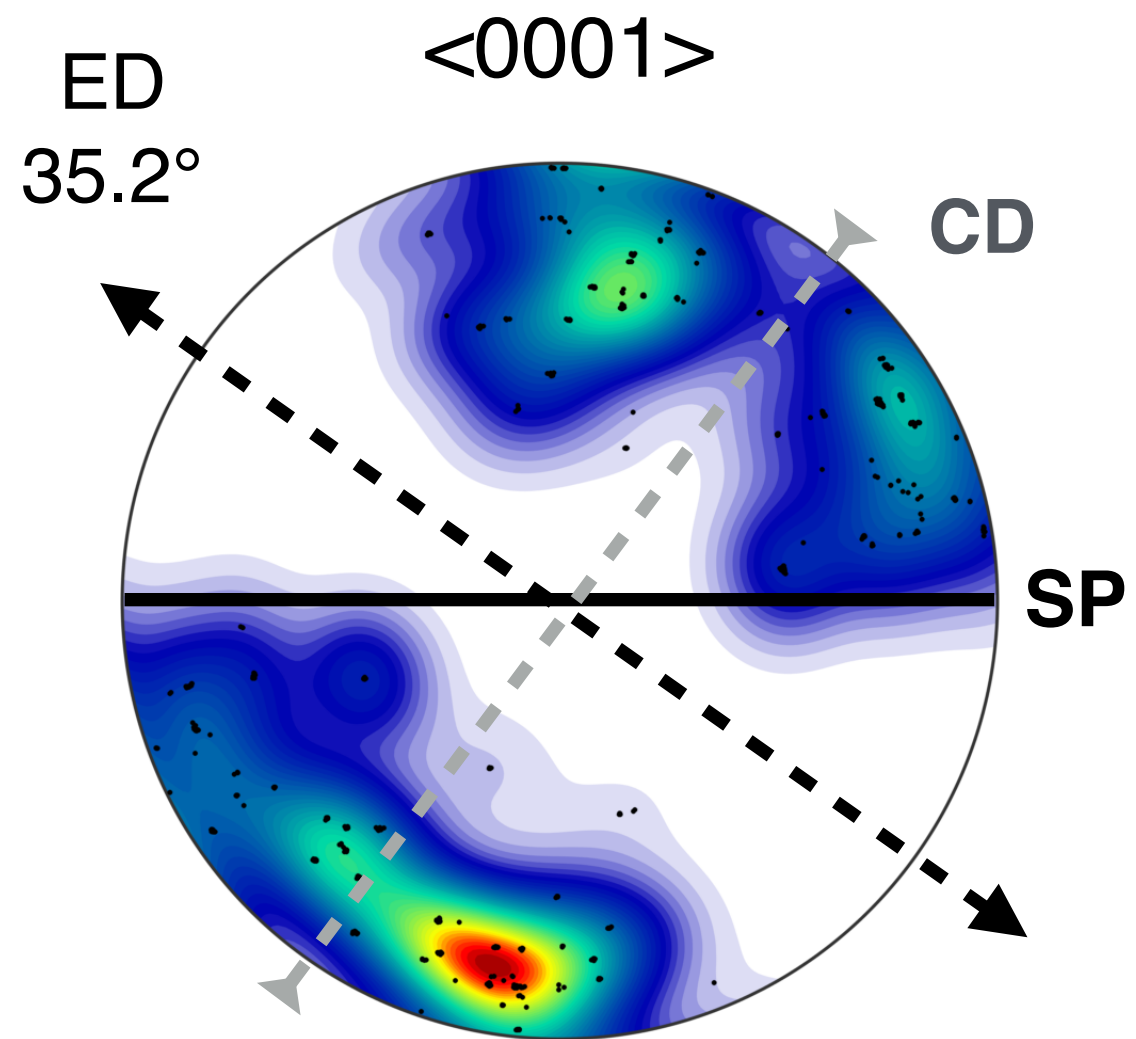
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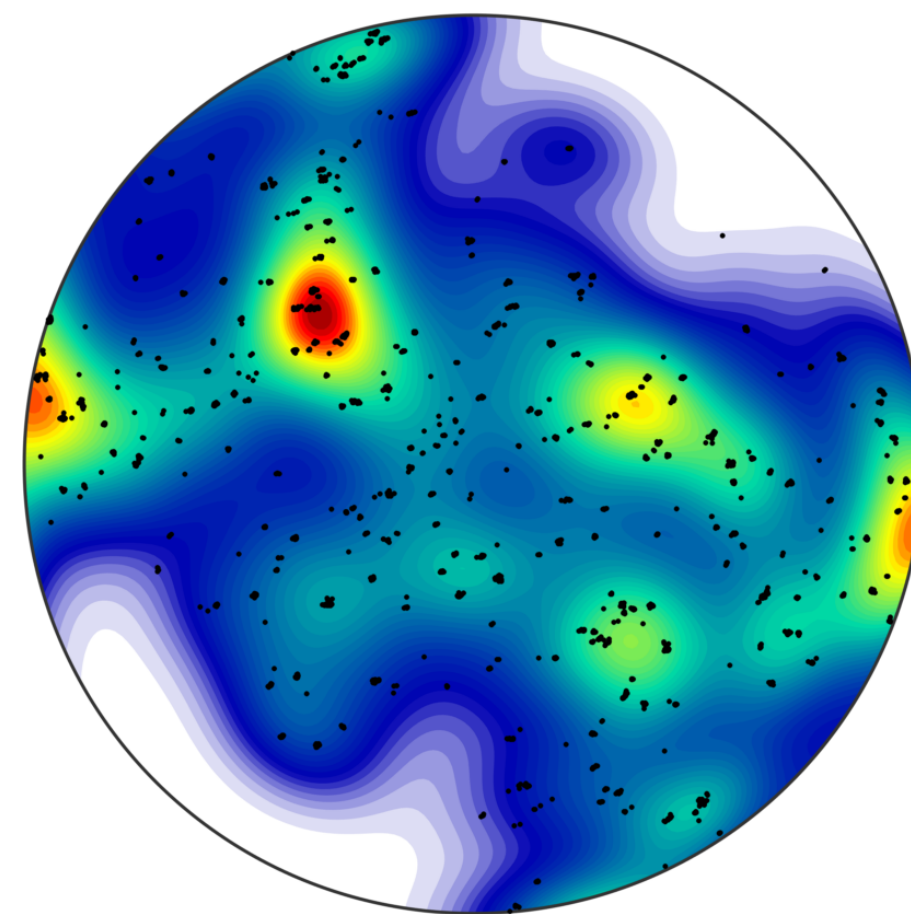
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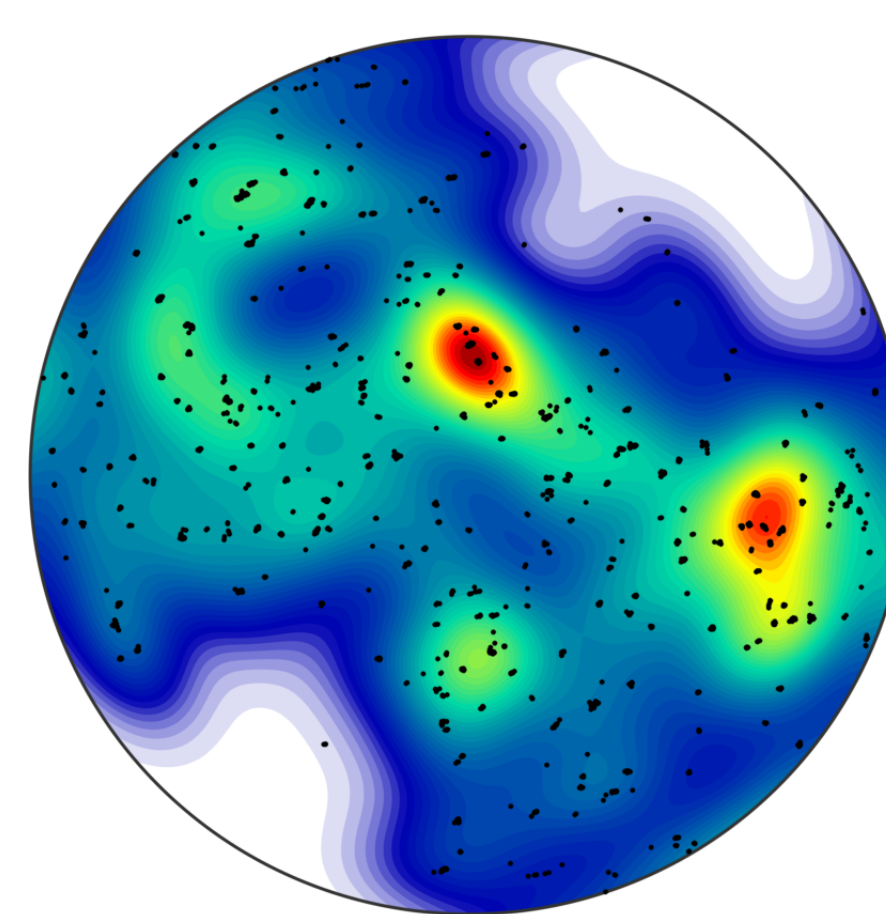
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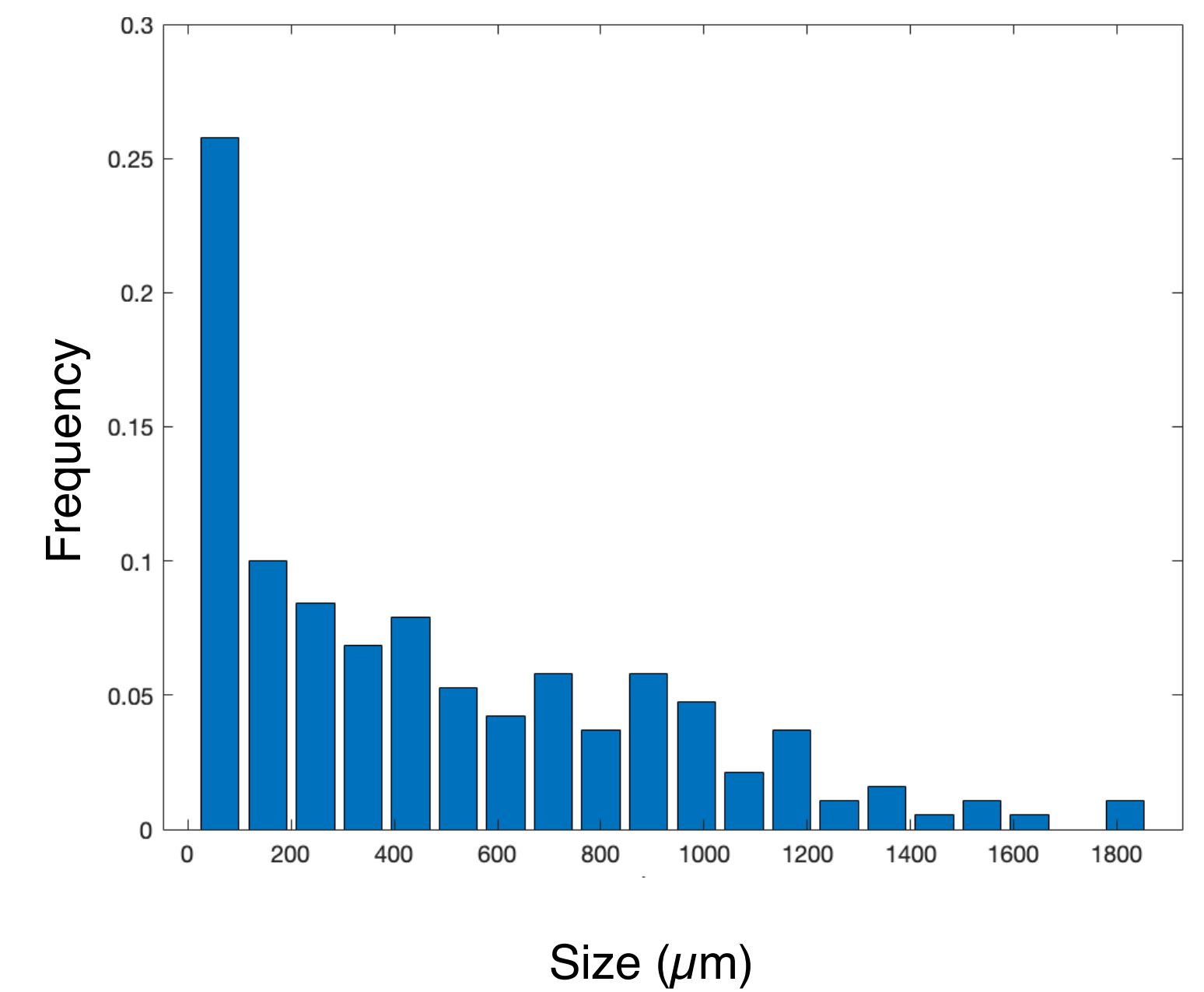
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$\langle 11-20 \rangle$



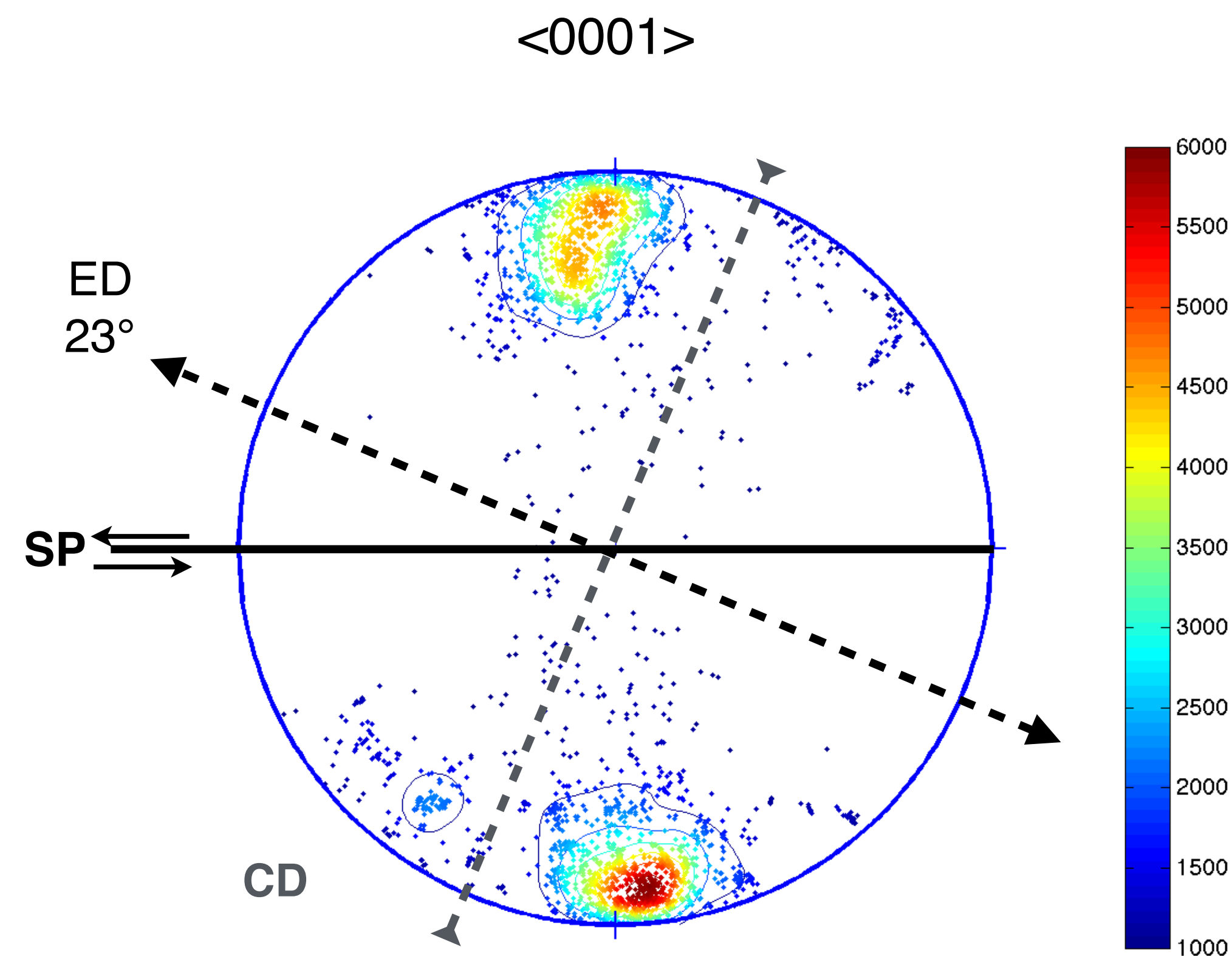
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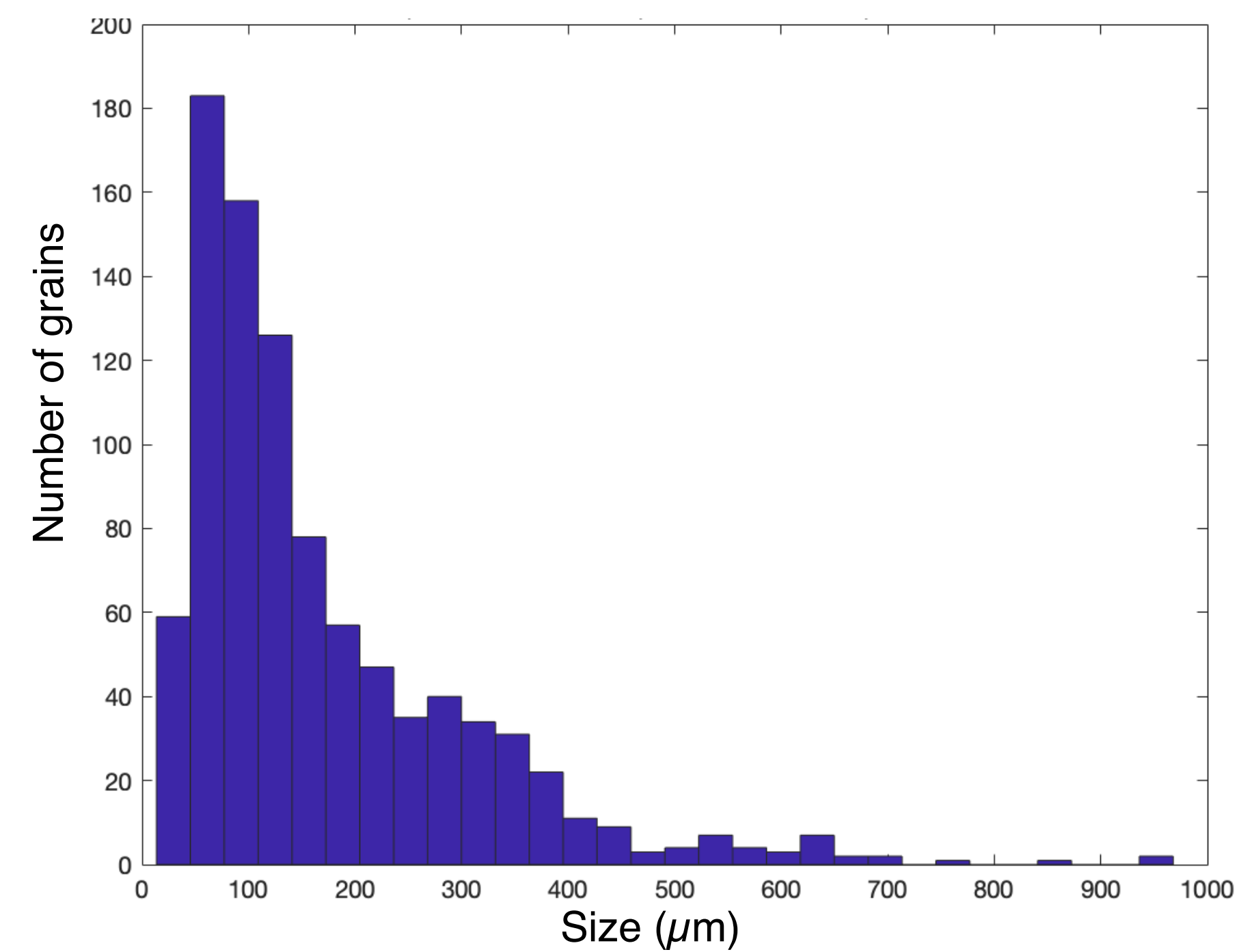
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Supplementary material

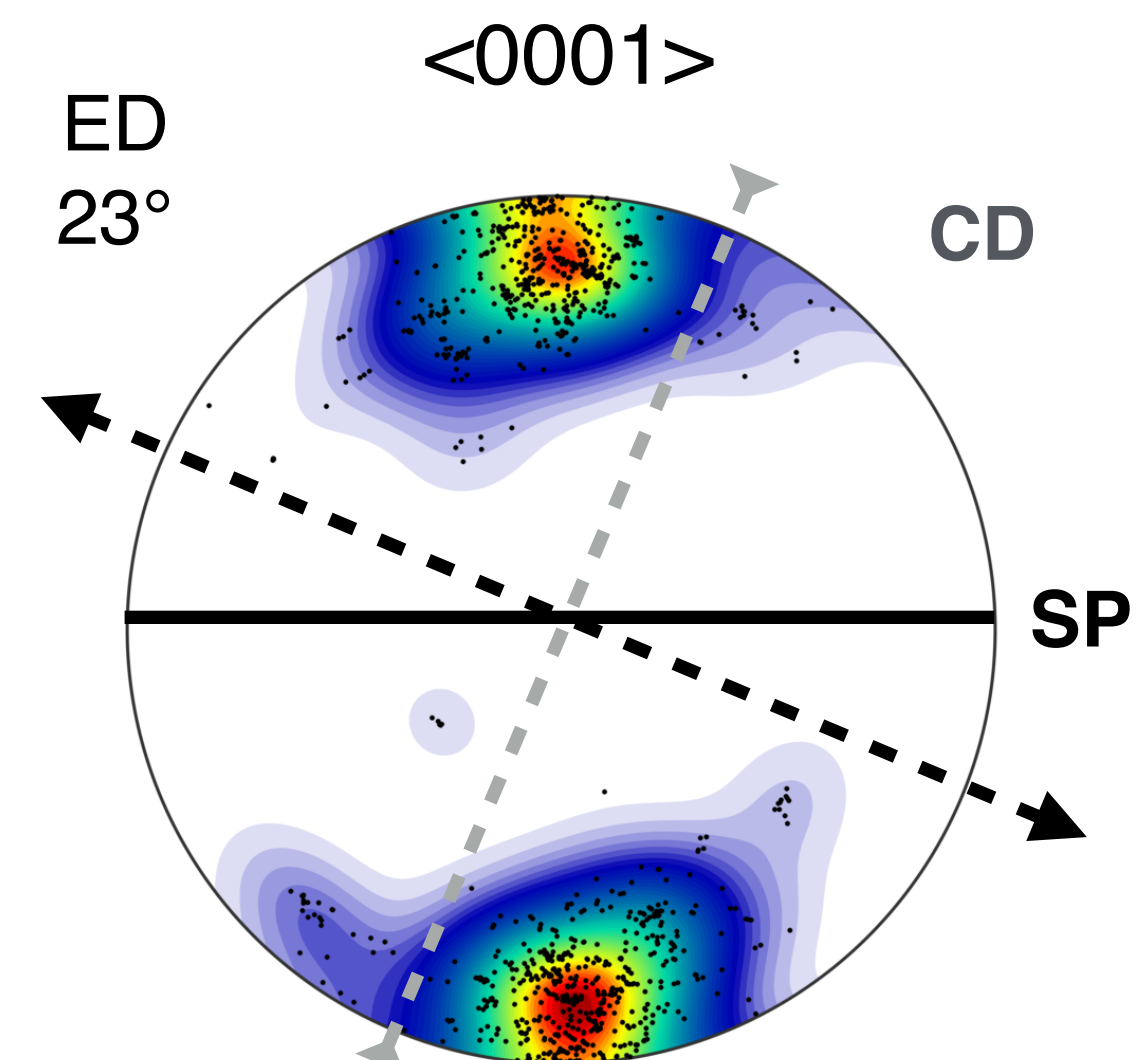
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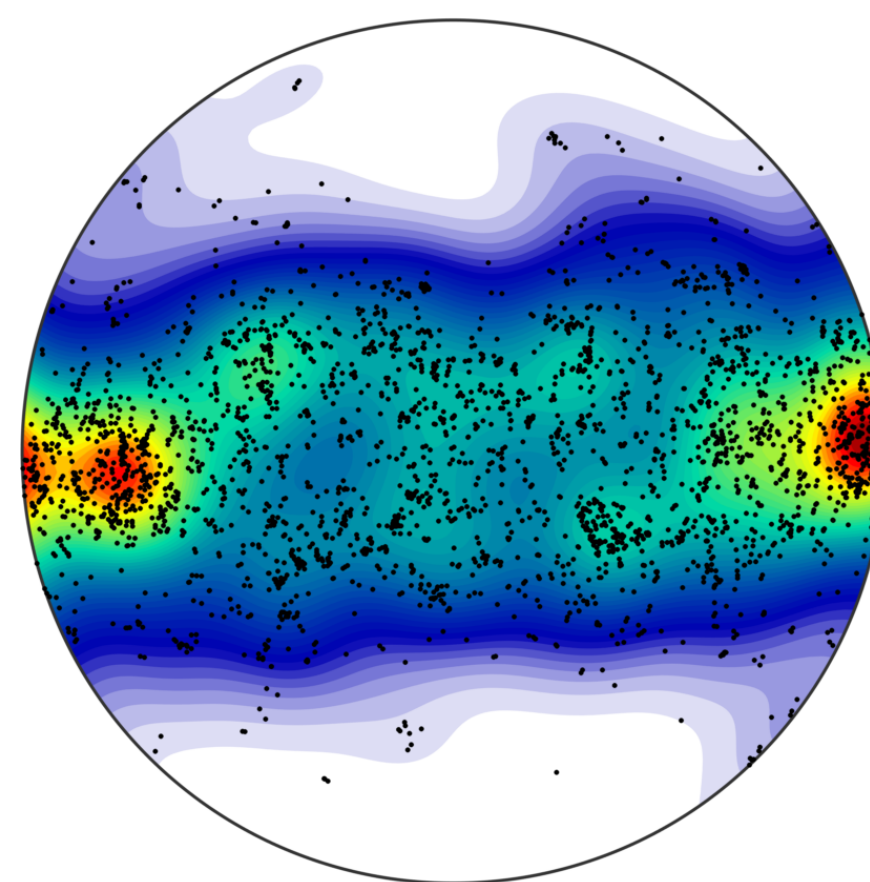
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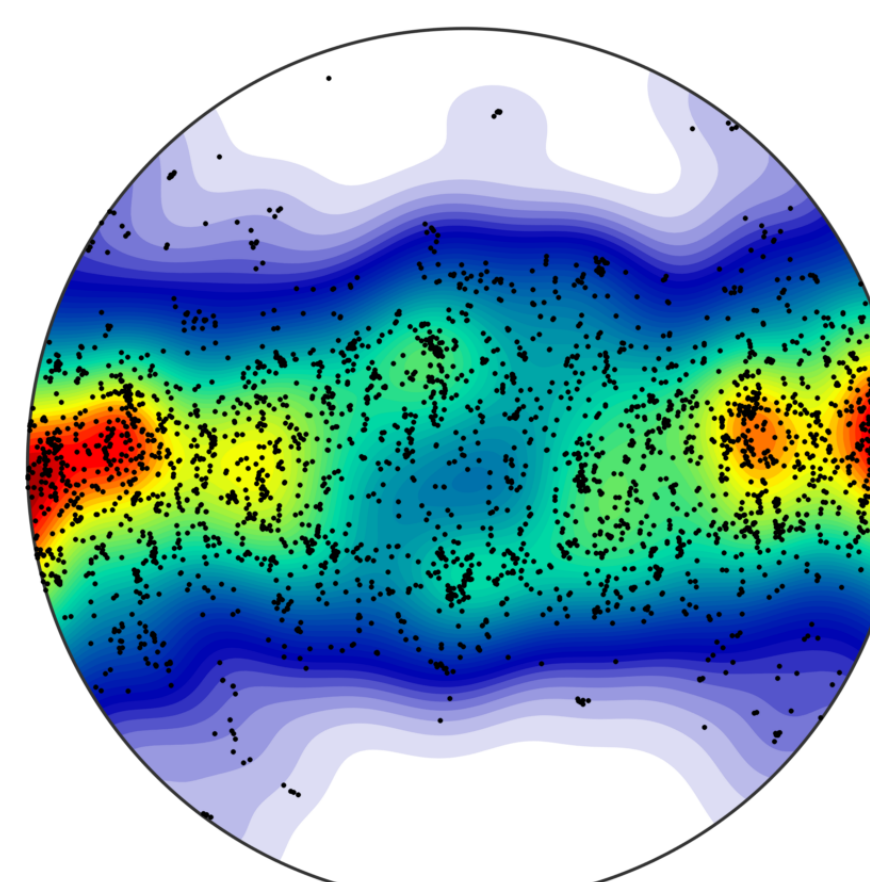
EBSD



$\langle 10-10 \rangle$



$\langle 11-20 \rangle$



Grain size

