

# The $^{10}\text{Be}$ record recovered from an Antarctic ice core used as a proxy for past solar activity : limitations and possibilities

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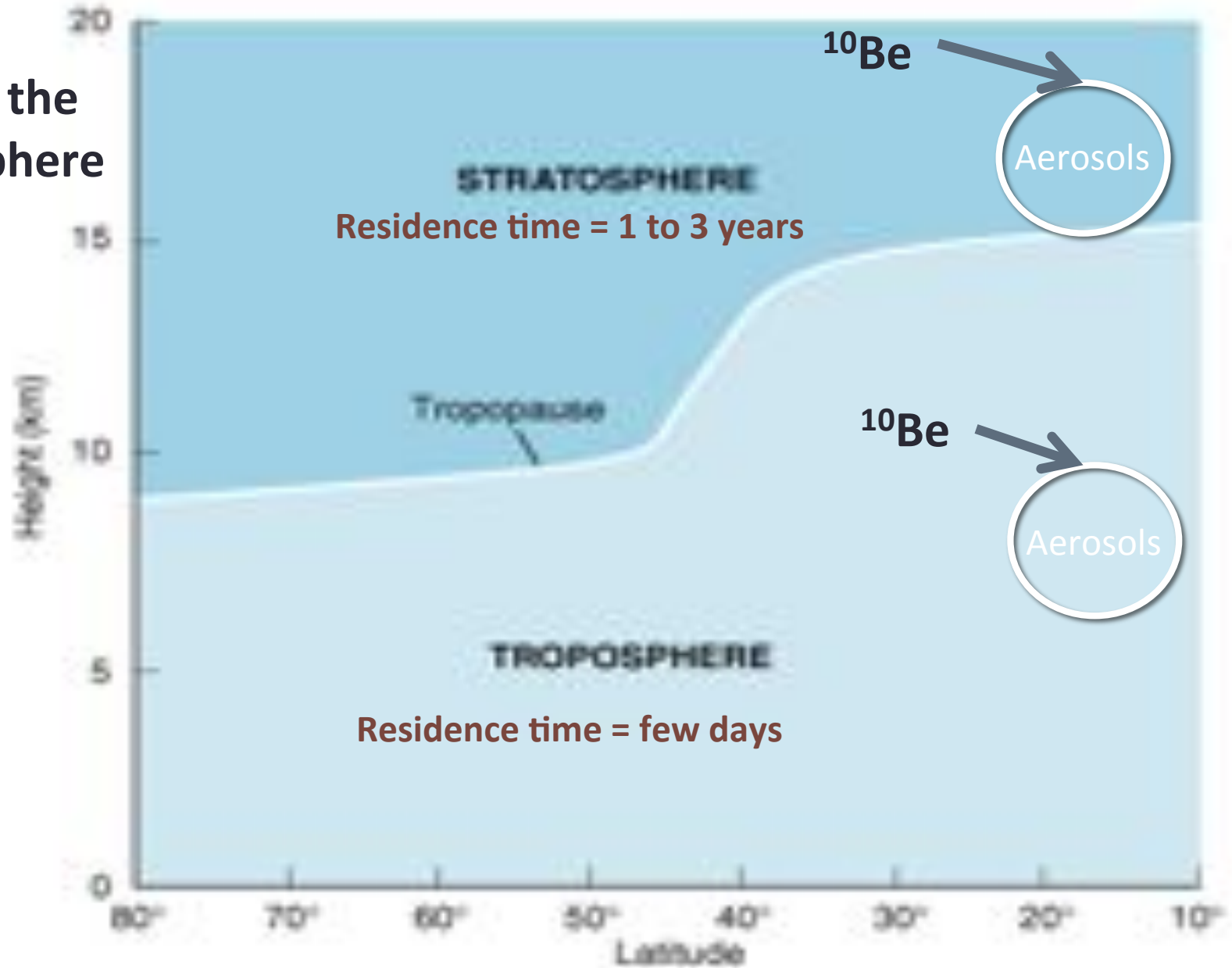
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# Max $^{10}\text{Be}$ production in the polar stratosphere



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e.g. Masarik and Beer (2009), Webber and Higbie (2007)

Most of the  $^{10}\text{Be}$  records studied at high resolution obtained from Greenland

⇒ Need to produce a high resolution record from Antarctica

## Site studied : Dome C



- **90m ice core**
- **Accumulation 3 cm ie/yr**
- **Samples cut every 3cm to obtain approx. 100g**
- **First 54m measured = more than 1600 samples**
- **Time period : 885-2010 A.D**



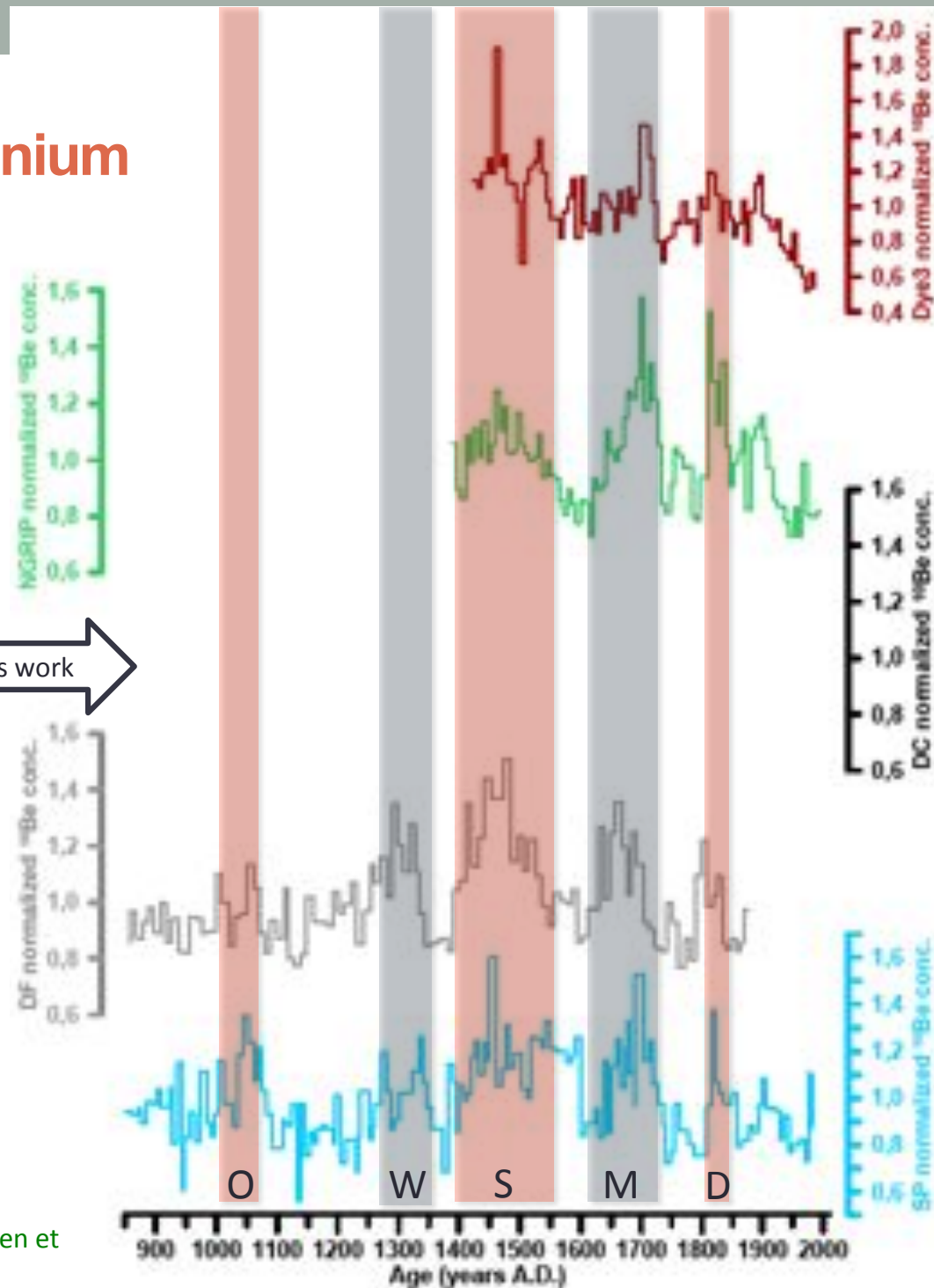
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## $^{10}\text{Be}$ records over the last millenium

5 solar minima detected :

- Oort
- Wolf
- Spörer
- Maunder
- Dalton

this work





## Conclusions

- Caution need to be taken for the interpretation of  $^{10}\text{Be}$  ice core records at the annual resolution (e.g. volcanic perturbation)
- $^{10}\text{Be}$  is still a reliable solar proxy for the detection of the 11-yr solar cycles or solar minima => irradiance reconstructions

