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NRAO  
Tucson

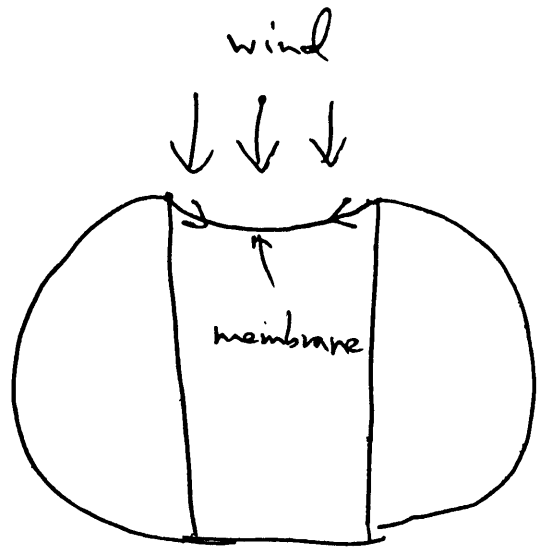
18 Aug '83

Dear Mark,

I am just reading the latest NRAO newsletter and see you are starting a study of materials for a "window shade", so I have just asked the group secretary (at Rutherford Appleton Lab) to send you a copy of our recently completed report on the subject. There is no doubt that the Teflon material we have found is excellent for both strength and RF properties. The problem is that it is bloody expensive. However for wavelengths no shorter than 0.8 mm you may well be able to use a coarser weave, which would be a good deal cheaper. The other problem with this type of sunshield is that it puts large forces on the building, especially

when the wind blows.

This might not be so bad for you since your dome is ~~so~~ big and the focal length <sup>is</sup> quite short, so that you can make the membrane curve <sup>inwards</sup> a lot. We have to use a rather modest curvature (w/ in sagitta) to keep down the size of the building. The doubly curved shape avoids flapping:



I hope this finds you well. It sounds as if you are having a pretty busy time. So one we. The foundations are in on Mauna Kea and the steel work is being fabricated.

Best regards

Richard Hills.