1151-57-39 **Rhea Palak Bakshi** and **Dionne F Ibarra***, 801 22nd Street NW, Phillips 107, Washington DC, DC 20052, and **Sujoy Mukherjee** and **Jozef H Przytycki**. *The Gram determinant of type Mb.*

In 1995, a general formula for the Gram determinant of Type A was formulated, this determinant is of a matrix given by a bilinear form on crossless connections in the disc with $2n$ boundary points. Thirtheen years later, a general formula for the Gram determinant of Type B was solved, this determinant is of a matrix given by a bilinear form on crossless connections in the annulus with $2n$ boundary points.The idea to work in the Möbius band, was formulated in October 2008. In April 2009, Qi Chen conjectured a general formula for the Gram determinant of the Möbius band, that is,

$$D_n^{(Mb)}(d,x,y,z,w) = \prod_{i=0}^{n} D_{n,i} \prod_{j=1}^{n} \mathbf{O}_{n,j}^{\binom{2n}{n-j}}.$$

Where, $D_{n,0} = \prod_{k=1}^{n} (T_k(d)^2 - z^2)^{\binom{2n}{n-k}}$, and for $i > 0$, $D_{n,i} = \prod_{k=1+i}^{n} (T_{2k}(d) - 2)^{\binom{2n}{n-k}}$, $O_{n,2i} = T_{2i}(w) - \frac{2(2-z)}{T_{2i}(d)-z}$, $O_{n,2i+1} = T_{2i+1}(w) - \frac{2xy}{T_{2i+1}(d)+z}$. Where the i represents the number of curves passing through the cross cap.

In this talk, we will discuss the bilinear form on crossless connections in the Möbius band with $2n$ boundary points then give insight to our progress in proving Qi Chen's conjecture. (Received July 31, 2019)