5007-51-492 **Carlos Barrera-Rodriguez*** (barrera@cimat.mx), Prol. Mineral de Valenciana #4C, Col. Marfil, 36251 Guanajuato, Guanajuato, Mexico. *A collection of interpolating multicurve complexes of a surface S.* Preliminary report.

We introduce a new collection of simplicial complexes associated to a connected orientable compact surface $S = S_{g,n}$, called k-curve complexes and denoted by k-$\mathcal{C}(S)$. Each complex is realized by: vertices given by multicurves ($(k-1)$-simplices of the original curve complex of S) and edges given by a restricted nonfillingness property between vertices. We prove that for each k, $1 \leq k \leq 3g+n-5$, the corresponding complex of this collection is connected and we study the coarse geometry of 1-$\mathcal{C}(S)$. In particular, we prove that 1-$\mathcal{C}(S)$ is hyperbolic. We also show a small application of these complexes to a Heegaard splitting of a manifold and a useful relation with the mapping class group of the surface S.
Keywords: curve complex, Teichmüller space, Heegaard splittings, pants complex, pseudo-Anosov map (Received May 14, 2013)