1077-57-309 **Aldo-Hilario Cruz-Cota*** (cruzal@gvsu.edu), Grand Valley State University, Department of Mathematics, 1 Campus Dr., A-2-178 MAK, Allendale, MI 49401, and **Teresita Ramirez-Rosas** (ramirezt@gvsu.edu), Grand Valley State University, Department of Mathematics, 1 Campus Dr., A-2-178 MAK, Allendale, MI 49401. *The Simple S^2-branched Cover Area of a Surface.* Preliminary report.

Given a surface M, the *complexity* of a branched cover $M \to S^2$ of degree d and with branching set of cardinality $n \geq 3$ is defined as d times the hyperbolic area of the complement of its branching set in S^2. The *simple S^2-branched cover area* of a surface M is the infimum of all complexities of simple branched covers $M \to S^2$. This is an invariant of the surface M that tells us how efficiently M covers the 2-sphere. We prove that if M is a connected closed orientable surface of genus $g \geq 1$, then its simple S^2-branched cover area equals $8\pi g$. (Received August 19, 2011)