1117-28-199 **Paata Ivanisvili*** (`ivanishvili.paata@gmail.com`), 326 Ivan Dr, Kent, OH 44240, and **Alexander Volberg**. *Isoperimetric functional inequalities via the maximum principle: the exterior differential systems approach.*

We will present the unified approach to the solutions of a class of isoperimetric problems by relating them to the exterior differential systems studied by R. Bryant and P. Griffiths. We will illustrate several classical by now isopereimetric inequalities which can be proved in a unified way. This unified approach reduces them to the so-called exterior differential systems studied by Robert Bryant and Phillip Griffiths. To the best of our knowledge, this is the first work where this connection is used. (Received January 13, 2016)