1086-05-393 **Hoang Ngoc Minh*** (hoang@lille2.fr), 59024 Lille, France, and **Gérard H.E. Duchamp**. *A differential theorem and its application to evaluations of special functions at some singularities.*

In this contribution, we present applications of an abstract differential theorem. This implies that, given a family of differential forms (with possible singularities) over a Riemanian surface of dimension one, the corresponding Chen generating series is a universal character of the $\mathcal{C}$-shuffle algebra ($\mathcal{C}$ is the field of functions which serves as scalars). The algebra of solutions can be computed by a simple algorithm. This algorithm is a (noncommutative) integrator which (under mild conditions $\mathcal{C}$), provides a transcendence basis of this algebra. From this, we discuss other algebraic relations of the numerical range of this basis which appear when one specializes it to well-choosen values. (Received August 28, 2012)