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*Hopf-Cyclic Cohomology of  $\mathcal{H}_n$  with Nontrivial Coefficients*

We show that the space  $\Omega_n^q$  of formal differential  $q$ -forms on  $\mathbb{R}^n$  has an (induced) SAYD module structure on the Connes-Moscovici Hopf algebra  $\mathcal{H}_n$ . We thus identify the Hopf-cyclic cohomology  $\mathcal{H}_n$  with coefficients in formal differential forms with the Gelfand-Fuks cohomology of the Lie algebra  $W_n$  of formal vector fields on  $\mathbb{R}^n$ . Furthermore, we introduce a multiplicative structure on the Hopf-cyclic bicomplex, and we show that this van Est-type isomorphism is multiplicative. We finally illustrate the whole machinery in the case  $n = 1$  and we see that the Hopf cocycles are continuous and not algebraic ones.