

## Abstract

Almost perfect nonlinear (APN) functions have good properties and are widely applied in sequence design and coding theory. Budaghyan and Carlet (2008) constructed a family of APN hexanomials  $F_3$  over  $\mathbb{F}_{2^{2m}}$  with a certain technical condition. In this article, we give the number of APN hexanomials  $F_3$  and support a determination theorem for APN hexanomials  $F_3$  if  $i=1$ . Moreover, we construct a family of APN functions in bivariate form and show it is CCZ-equivalent to  $F_3$ .