

عنوان مقاله:

Bayer noise quasisymmetric functions and some combinatorial algebraic structures

محل انتشار:

مجله نظریه رسته ها و ساختارهای کلی جبری با کاربردها، دوره 21، شماره 1 (سال: 1403)

تعداد صفحات اصل مقاله: 30

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خلاصه مقاله:

Recently, quasisymmetric functions have been widely studied due to their big connection to enumerative combinatorics, combinatorial Hopf algebra and number theory. The Bayer filter mosaic, named due to Bryce Bayer (۱۹۲۹-۲۰۱۲), is a color filter array used to arrange RGB color filters on a square grid of photosensors. It is the most common pattern of filters, and almost all professional digital cameras are applications of this filter. We use this filter to introduce the Bayer Noise quasisymmetric functions, and we study some combinatorial algebraic and coalgebraic structures on Quasi-Bayer Noise modules and on Quasi-Bayer GB-Noise modules. We explicitly describe the primitive basis elements for each comultiplication defined on Quasi-Bayer Noise modules, and we calculate different kinds of comultiplications defined on Quasi-Bayer Noises module over a fixed commutative ring  $\mathbf{k}$ .

کلمات کلیدی:

Quasisymmetric functions, RGB, Bayer filter, algebra, coalgebra, Noise, composition

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