

## عنوان مقاله:

Complex fuzzy sets with applications in decision-making

## محل انتشار:

مجله سیستم های فازی، دوره 19، شماره 4 (سال: 1401)

تعداد صفحات اصل مقاله: 17

## نویسندگان:

M. Zeeshan - *Department of Mathematics, COMSATS University Islamabad, Islamabad Campus, Pakistan*

M. Khan - *Department of Mathematics, COMSATS University Islamabad, Abbottabad Campus, Pakistan*

## خلاصه مقاله:

In this paper, we discussed the conjunctive normal form, disjunctive normal form, duality principle, equality of two sets and a semi Boolean algebra of complex fuzzy sets (CFSs). We established some basic results and particular examples with respect to standard complex fuzzy intersection, standard complex fuzzy union and standard complex fuzzy complement functions with the same function for determining the phase term. We used CFSs in signals and systems because the behavior of CFSs is similar to Fourier transforms in certain cases. Moreover, we developed a new algorithm using a Cartesian product of complex fuzzy sets for applications in signals and systems by which we identified a reference signal out of the large number of signals detected by a digital receiver.

## کلمات کلیدی:

Complex fuzzy sets, duality principle, semi-Boolean algebra, signals and systems

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1506454>

