The cd-index of the poset of intervals and E_t -construction

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The *cd*-index of an Eulerian poset is a homogenous polynomial in two noncommutative variables, which encode the flag *f*-vector in the most efficient way. For a given poset *P*, we consider I(P) (poset of all intervals in *P*) and E_t construction over *P* and define linear operators \mathcal{I} and \mathcal{E}_t which describe the *cd*-index of these new posets in the terms of *cd*-index of *P*.