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UCLA, Los Angeles, CA 90095. *Ehrhart polynomial of some Schlafli simplices.*

We show that Ehrhart polynomial of certain Schlafli simplices can be computed in polynomial time. We apply this result to the problem of counting integer partitions. In particular, we prove that the number of binary partitions of N can be computed in $\text{poly}(\log N)$ time. (Received September 19, 2017)