

THE FORMULAS ON REPRESENTING INTEGERS AS SUMS OF SQUARES

KOJI TASAKA

ABSTRACT. I will talk about the formulas on representing integers as sums of $8s$ squares or triangular numbers conjectured by Chan and Chua. These formulas are obtained by determining the basis of the space of modular forms of level 2. The proof uses a theorem of Imamoglu and Kohnen, which is a consequence of the Eichler-Shimura correspondence identifying the space of cusp forms with the space of periods, and the theory of multiple zeta values.