

## AC Susceptibility of High $T_c$ Superconducting $Tl_{0.8}Pb_{0.2}Bi_{0.2}Ca_{2.2}Cu_3O_x$ .

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The polycrystalline  $Tl_{0.8}Pb_{0.2}Bi_{0.2}Ca_{2.2}Cu_3O_x$  was synthesized by the solid state reaction method. The dependence of AC susceptibility on temperature and ac applied field was studied. The critical temperature  $T_c$  is about 120K. As the ac field is increased, the slope and the value of real part of susceptibility become smaller and the peak position of imaginary part  $T_p$  was shifted to a lower temperature with peak broadening. Using Bean model, we determined intergrain critical current density  $J_c$  and obtained 272 A/cm<sup>2</sup> at 80K.

From the relation of the  $J_c(T)=(1-T/T_c)^\beta$ , we obtained  $\beta=0.7$  and found that the Josephson junction type of the  $Tl_{0.8}Pb_{0.2}Bi_{0.2}Ca_{2.2}Cu_3O_x$  is SIS type.

keywords : AC susceptibility, Josephson junction