

## Effect of Doping Level on the Crystal Structure of HTSC-compounds at Temperature Range 300-100 K

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Results of diffraction experiments at cooling from 300 to 100 K of HTSC-compounds Bi-2201, Bi-2212, Y,Ca-123 and Hg,tl-1223 with different charge concentration are presented, unit cell parameters and coefficients of thermal expansion are calculated. Minimum of coefficient of thermal expansion down to negative values was observed at temperature range  $T_1 (\approx 160K)$  -  $T_2 (\approx 250K)$ . This behavior is dependent of the doping level of compounds and accompanied by arising of atomic thermal vibration amplitudes in  $T_1 - T_2$  range. For all systems the coefficient of thermal expansion in this range was minimal for optimal doped samples.