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Electrical resistance measurement of optimal doped YBCO under pressure TAKAKI MURAMATSU, TcSUH, University of Houston, DUC PHAM TEAM, CHING-WU CHU TEAM — High pressure effect on nearly optimal doped high T_C cuprate superconductor $YBa_2Cu_3O_{7-x}$ was studied by the electrical resistance measurements up to about 30 GPa. Superconducting phase of $YBa_2Cu_3O_{7-x}$ in pressure-temperature phase diagram was confirmed. T_C has the broad maximum at about 8 GPa and then decreases with pressure and disappears at the pressure between 23 GPa and 25 GPa. In higher pressure region, the resistance shows upturn below about 60 K, indicating the possibility of crossover on $YBa_2Cu_3O_{7-x}$ from superconductor to semiconductor at about 24 GPa

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