

sufficiently understood or because the CPL parametrization is not versatile to accommodate the cosmological evolution of DE suggested by the data [11]. The data sets used in the analysis of [11] are limited to the Constitution set of 397 SNIa in combination with BAO distance ratio of the distance measurements obtained at $z = 0.2$ and $z = 0.35$ and the CMB shift parameter. It is expected that if more combinations of new data sets are included, these arguments can be clarified. In [4], it was showed that the result of the analysis on the CPL model [11] heavily depends on the choice of BAO data. The result obtained by using the BAO distance ratio data was found not consistent with that by using other observational data, and this inconsistency can be overcome if the BAO A parameter [12] is employed instead [4]. In this work we are going to investigate this problem further by comparing different data set combinations among SNIa, BAO and CMB.

II. OBSERVATIONAL DATA

For the SNIa data, we use the Constitution sample [6] and the first year Sloan digital sky survey-II (SDSS-II) SNIa (hereafter Sdss2) [13]. The Constitution sample consists of the Union sample [14] together with 185 CfA3 SNIa data, which totally contains 397 SNIa. The CfA3 addition makes the cosmologically useful sample of nearby SNIa much larger than before, which reduces the statistical uncertainty to the point where systematics plays the largest role. To test the systematic differences and consistencies, in [6] four light curve fitters, *SALT*, *SALT2*, *MLCS2k2* with $R_V = 3.1$ (MLCS31), *MLCS2k2* with $R_V = 1.7$ (MLCS17), have been used. For the Constitution SNIa data using the template *SALT* (hereafter Csta), the intrinsic uncertainty of 0.138 mag for each CfA3 SNIa, the peculiar velocity uncertainty of 400km/s, and the redshift uncertainty have been considered [6]. These data were suggested by observers to be the best data for model independent analysis of the expansion history. The Constitution SNIa data using the template *SALT2* (hereafter Cstb), excludes the SNIa with $z < 0.01$ or $t_{1st} > 10d$, so it has 351 SNIa data. Using the template *MLCS17* on the Constitution data (hereafter Cstc), the SNIa with $A_v \geq 1.5$ and $t_{1st} > 10d$ has been cut out and it excludes those SNIa whose *MLCS17* fit has a reduced χ^2_ν being 1.6 or higher, thus Cstc has only 372 SNIa data. The Cstd sample is formed by using the template *MLCS31* on the Constitution sample and cutting out the SNIa with $A_v \geq 1.5$ and $t_{1st} > 10d$. It excludes any SNIa whose *MLCS31* fit has a reduced χ^2_ν