LIST OF TABLES

Table page

**Table 3-1**: Telecentric Test System Optical specifications 55

**Table 3-2**: Telescoptic Prototype System Optical Parameters. 61

**Table 3-3**: Final ALI optical specifications 68

**Table 3-4**: Revised ALI optical specifications 71

**Table 4-1**: Location of ALI temperature sensors. 88

**Table 4-2:** Estimated balloon flight exposure times. 97

**Table 6-1:** Different particle size distributions used to test the sensitivity of the aerosol retrieval. 145

**Table 6-2**: The SSA dependence of the normalized co-variance for the horizontal and vertical polarization retrievals. The given numbers are the mean with the standard deviation for each geometry across all wavelengths. Note that the SSA of 90◦ for the vertical polarization has been removed due to the poor signal in this region. 162

**Table A-1:** Lens used in ALI and their specifications. 183

**Table A-2:** AOTF Specifications. 184

**Table A-3:** QSI CCD camera specifications. 185

**Table A-4:** Opto-mechanical components used in ALI 186

**Table B-1:** ALI operational science modes. 194

**Table B-2:** ALI calibration science mode specifications. 195

**Table B-3:** ALI aerosol science mode specifications. 195

**Table B-4:** ALI H2O science mode specifications. 196

**Table B-5:** ALI O2 science mode specifications. 196

**Table B-6:** ALI operational exposure time modes. 197