LIST OF TABLES

Table page

**Table 3-1**: Telecentric Test System Optical specifications 50

**Table 3-2**: Telescoptic Prototype System Optical Parameters. 56

**Table 3-3**: Final ALI optical specifications 63

**Table 3-4**: Revised ALI optical specifications 66

**Table 4-1**: Location of ALI temperature sensors. 83

**Table 4-2:** Estimated balloon flight exposure times. 93

**Table 6-1:** Different particle size distributions used to test the sensitivity of the aerosol retrieval. 144

**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 90o for the vertical polarization has been removed due to the poor signal in this region. 161

**Table A-1:** Lens used in ALI and their specifications. 181

**Table A-2:** AOTF Specifications. 182

**Table A-3:** QSI CCD camera specifications. 183

**Table A-4:** Opto-mechanical components used in ALI 184

**Table B-1:** ALI operational science modes. 192

**Table B-2:** ALI calibration science mode specifications. 193

**Table B-3:** ALI aerosol science mode specifications. 193

**Table B-4:** ALI H2O science mode specifications. 194

**Table B-5:** ALI O2 science mode specifications. 194

**Table B-6:** ALI operational exposure time modes. 195