This data is from the paper titled "Environmental Effects on Space Weathered Lizardite Grains" published in The Planetary Science Journal

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The data files are for:

Figure 2. X-Ray Diffraction pattern for our olivine and lizardite samples.

Figure 2 Olivine.txt - first column is 2_Theta and the second column is counts.

Figure 2 Lizardite.txt - first column is 2_Theta and the second column is counts.

Figure 3. Representative Shirley background subtraction and peak fitting in the Si-2p and Mg-2s region for lizardite.

Figure 3 Example fit.txt - first column is the Binding Energy (eV), second column is the raw data (counts), third column is the Si-2p fit, fourth column is the Mg-2s fit, fifth column in the Mg-2s shake up fit, and sixth column is the Shirley background.

Figure 4. Representative XPS survey spectra of olivine and lizardite before irradiation, after irradiation, and after irradiation + soaking.

Figure 4 Olivine.txt - first column is the Binding Energy (eV), second column is the initial spectrum (counts), third column is the spectrum after irradiation (counts), and fourth column is the spectrum after irradiation and soaking in water (counts).

Figure 4 Lizardite.txt - first column is the Binding Energy (eV), second column is the initial spectrum (counts), third column is the spectrum after irradiation (counts), and fourth column is the spectrum after irradiation and soaking in water (counts).

Figure 5. Representative XPS HR spectra of olivine and lizardite before irradiation, after irradiation, and after irradiation + soaking.

Figure 5 Olivine.txt - first column is Binding Energy (eV), 2nd column is the initial spectrum (counts), 3rd column is Binding Energy (eV), 4th column is the spectrum after irradiation (counts), 5th column is the Binding Energy (eV), and 6th column is the spectrum after irradiation and soaking (counts).

Figure 5 Lizardite.txt - first column is Binding Energy (eV), 2nd column

is the initial spectrum (counts), 3rd column is Binding Energy (eV), 4th column is the spectrum after irradiation (counts), 5th column is the Binding Energy (eV), and 6th column is the spectrum after irradiation and soaking (counts).

Figure 6. Atomic concentration (%) of main components in olivine and lizardite as a function of irradiation fluence.

Figure 6 Olivine.txt - first column is the irradiation fluence (ions cm^-2), the second column through sixth columns are the concentrations (%) of oxygen, silicon, magnesium, carbon and iron.

Figure 6 Lizardite.txt - first column is the irradiation fluence (ions cm^-2), the second column through fifth columns are the concentrations (%) of oxygen, silicon, magnesium, and carbon.

Figure 7. Mg concentration (%) in olivine and lizardite as a function of irradiation fluence and five minutes of soaking in H2O.

Figure 7 Olivine.txt - first column is the irradiation fluence (10^15 He cm^-2), the second column is the Mg concentration (%), and the third column is the error in the concentration. The shaded bar spans from 20% to 23.3%.

Figure 7 Olivine fit.txt - first column is the irradiation fluence (10^15 He cm^-2) and the second column are the fit values.

Figure 7 Lizardite.txt - first column is the irradiation fluence (10^15 He cm^-2), the second column is the Mg concentration (%), and the third column is the error in the concentration. The shaded bar spans from 17.5% to 20.5%.

Figure 7 Lizardite fit.txt - first column is the irradiation fluence (10^15 He cm^-2) and the second column are the fit values.

Figure 8. Mg concentration (%) in lizardite as a function of soak time (minutes).

Figure 8 Lizardite in water.txt - the first column is soak time (in minutes), the second column is the Mg concentration (%), and the third column is the error in the concentration. The shaded bar spans from 16.5% to 19%.

Figure 8 Lizardite fit.txt - first column is the irradiation fluence (10^15 He cm^-2) and the second column are the fit values.

Figure 8 Lizardite in acetone and isopropyl alcohol.txt - the first column is soak time (in minutes), the second column is the Mg concentration (%)

after soaking in acetone, the third column is the error in the concentration, the fourth column is the Mg concentration (%) after soaking in isopropyl alcohol, and the fifth column is the error in the concentration.

Figure A1. Representative XPS survey spectra of five different olivine and lizardite samples before irradiation.

Figure 4 A1 Olivine.txt - first column is the Binding Energy (eV), second column is the initial spectrum (counts), third column is the Binding Energy (eV), fourth column is the initial spectrum (counts), fifth column is the Binding Energy (eV), sixth column is the initial spectrum (counts), seventh column is the Binding Energy (eV), eighth column is the initial spectrum (counts), ninth column is the Binding Energy (eV), and the tenth column is the initial spectrum (counts).

Figure 4 A1 Lizardite.txt - first column is the Binding Energy (eV), second column is the initial spectrum (counts), third column is the Binding Energy (eV), fourth column is the initial spectrum (counts), fifth column is the Binding Energy (eV), sixth column is the initial spectrum (counts), seventh column is the Binding Energy (eV), eighth column is the initial spectrum (counts), ninth column is the Binding Energy (eV), and the tenth column is the initial spectrum (counts).

Figure A2. Representative XPS HR spectra of five different olivine and lizardite samples before irradiation.

Figure 4 A2 Olivine.txt - first column is the Binding Energy (eV), second column is the initial spectrum (counts), third column is the Binding Energy (eV), fourth column is the initial spectrum (counts), fifth column is the Binding Energy (eV), sixth column is the initial spectrum (counts), seventh column is the Binding Energy (eV), eighth column is the initial spectrum (counts), ninth column is the Binding Energy (eV), and the tenth column is the initial spectrum (counts).

Figure 4 A2 Lizardite.txt - first column is the Binding Energy (eV), second column is the initial spectrum (counts), third column is the Binding Energy (eV), fourth column is the initial spectrum (counts), fifth column is

the Binding Energy (eV), sixth column is the initial spectrum (counts), seventh column is the Binding Energy (eV), eighth column is the initial spectrum (counts), ninth column is the Binding Energy (eV), and the tenth column is the initial spectrum (counts).

Columns are tab delimited, with a single row descriptive header. Files are best read by importing into Excel, Origin Pro, or similar software.