## package Integer SMALL\_STEP package Integer LARGE\_STEP package XYSeries series1 package XYSeriesCollection data package Double x = 0.0 package Double y = 0.0 private JButton ABORTfocus private JButton GOTObutton private JSpinner GOTOspinner loginCH private JButton INbutton { From chimera } private JButton OUTbutton private JButton STARTfocus package String loginList[0..\*] = new ArrayList<String>() private ButtonGroup focusGroup package XmlRpcClient client = null private JPanel gotoPanel package String server\_url = "" private JInternalFrame jChart package InetAddress addr = null private JLabel jEnd package String clientURL = "" private JLabel jExpose private JComboBox jCBaddress private JLabel jFE private JPanel jPanel1 private JTextField jFEtext private JLabel jlabelServer private JLabel jFS private JButton loginCANCEL private JTextField jFStext

private JPanel positionPanel

public void getrange()

public Integer getCurrent( )

public void createChartFocus()

private void initComponents()

private XYDataset createDataset( )

private void STARTfocusMouseClicked( MouseEvent evt )

private void ABORTfocusMouseClicked( MouseEvent evt )

private JRadioButton smallRadio

private JButton loginOK private JLabel loginWelcome Operations public loginCH( ) private void initComponents() private void loginCANCELMouseClicked( MouseEvent evt ) private void loginOKMouseClicked( MouseEvent evt ) private void loginOKKeyPressed( KeyEvent evt ) private void jCBaddressActionPerformed( ActionEvent evt ) private void writeList() private void loadMainWindow( ) public void main( String args[0..\*] )

## FocusControl { From chimera } Attributes package XmlRpcClient client = null package String focusName = "" package Integer MIN\_POSITION package Integer MAX\_POSITION private JPanel jPanel1 private JPanel jPanel2 private JSpinner jSend private JSeparator jSeparator1 private JSpinner jSexpose private JSpinner jSstart private JSpinner jSstep private JLabel jStart private JLabel jStep private JRadioButton largeRadio private JPanel manualPanel private JTextField positionField

public FocusControl(XmlRpcClient client, String focusName) private JFreeChart createChart(XYDataset dataset) private void INbuttonMouseClicked( MouseEvent evt ) private void OUTbuttonMouseClicked( MouseEvent evt ) private void GOTObuttonMouseClicked( MouseEvent evt )

## DockingWindowCH { From chimera } Attributes private int ICON SIZE = 8 private Icon VIEW ICON = new Icon() private RootWindow rootWindow private View views[0..\*] = new ArrayList<View>() private ViewMap viewMap = new ViewMap() private JMenultem viewltems[0..\*] = new ArrayList<JMenultem>() private DockingWindowsTheme currentTheme = new ShapedGradientDockingTheme() private RootWindowProperties properties = new RootWindowProperties() private byte layouts[0..\*,0..\*] = new byte[[3]] private JFrame frame = new JFrame("Chimera") package XmlRpcClient client = null package String clientURL = "" public DockingWindowCH(XmlRpcClient client, String clientURL) private void createRootWindow() private void updateViews( DockingWindow window, boolean added ) private void showFrame( ) private JMenuBar createMenuBar() private JMenu createLayoutMenu( ) private JMenu createFocusViewMenu() private JMenu createPropertiesMenu() private void freezeLayout( boolean freeze ) private JMenu create View Menu() private void updateFloatingWindow(FloatingWindow fw)

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CameraControl
                                  { From chimera }
                                      Attributes
package boolean DEBUG = false
package NumberFormat myFormat = NumberFormat.getInstance()
package double maxCCDwidth
package double maxCCDheight
package double CCDratio = 1.0
package double selectedCCDwidth
package double selectedCCDheight
package Point CCDselectedPoint
package String subframeVector[0..*]
package String binVector[0..*]
package String filterVector[0..*]
package int subframeIndex
package JFrame subframeFrame
package JFrame binFrame
package JFrame filterFrame
package JFrame optionsFrame
package XmlRpcClient client = null
package String cameraName = ""
package String clientURL = ""
private JButton AbortButton
private JPanel AllButtonsPanel
private JButton BinAcceptButton
private JPanel BinAcceptButtonPanel
private ButtonGroup BinButtonGroup
private JPanel BinButtonsPanel
private JLabel BinLabel
private JPanel BinPanel
private JTextField BinTextField
private JToggleButton BinToggleButton
private JPanel ButtonsPanel
private JButton ChooselmagesButton
private JPanel CurrentConfigurationPanel
private JLabel CurrentSetpointLabel
private JTextField CurrentSetpointTextField
private JLabel CurrentTemperatureLabel
private JTextField CurrentTemperatureTextField
private JLabel Currently CoolingLabel
private JTextField CurrentlyCoolingTextField
private JLabel CurrentlyFanningLabel
private JTextField CurrentlyFanningTextField
private JCheckBox DisplayImageCheckBox
private JLabel DisplayImagesLabel
private JTextField DisplayImagesTextField
private JPanel ExposurePanel
private JLabel ExposureTimeLabel
private JScrollPane ExposureTimeScrollPane
private JTextArea ExposureTimeTextArea
private JButton FilterAcceptButton
private JPanel FilterAcceptButtonPanel
private ButtonGroup FilterButtonGroup
private JPanel FilterButtonsPanel
 private JLabel FilterLabel
private JPanel FilterPanel
 private JTextField FilterTextField
private JToggleButton FilterToggleButton
private JPanel ImageButtonPanel
private JPanel ImageDisplayOptionsPanel
private JLabel IsCoolingLabel
private JTextField IsCoolingTextField
private JLabel IsFanningLabel
private JTextField IsFanningTextField
private JButton NewSetpointButton
private JLabel NewSetpointLabel
private JTextField NewSetpointTextField
private JButton OptionsAcceptButton
private JPanel OptionsAcceptButtonPanel
private JPanel OptionsPanel
private JToggleButton OtherOptionsToggleButton
private JLabel SecondsLabel
private JSpinner SecondsSpinner
 private JLabel SeriesLabel
 private JLabel SeriesOfLabel
 private JSpinner SeriesSpinner
private JTextField SeriesTextField
private JLabel SetpointLabel
private JTextField SetpointTextField
private JButton StartStopCoolingButton
private JButton StartStopFanningButton
private JButton SubframeAcceptButton
private JPanel SubframeAcceptButtonPanel
private JPanel SubframeButtonsPanel
 private JPanel SubframeDimensionPanel
 private JLabel SubframeLabel
 private JPanel SubframePanel
 private JTextField SubframeTextField
private JToggleButton SubframeToggleButton
private JButton TakelmageButton
private JLabel TemperatureLabel
private JPanel TemperatureOptionsPanel
private JTextField TemperatureTextField
public CameraControl(XmlRpcClient client, String cameraName, String clientURL)
private void Abortlmage()
private void Takelamge( )
private void assembleBinPanel()
private void assembleFilterPanel()
 private void assembleSubframePanel()
private void SubframeSizeButtonActionPerformed( ActionEvent evt )
private void SubframePreviewButtonActionPerformed( ActionEvent evt )
private void assembleOptionsPanel()
private void createFrames()
private void getCCDinfo()
private void uniformFrames(JFrame frame)
private void formWindowDeactivated( JFrame frame )
private void fillBinVector()
private void fillFilterVector()
private void fillSubframeVector()
private void fillVectors()
private void updateFields()
private String prettyTime(String seconds)
private String prettySeries (String series)
private void AbortEnabled( )
private void AbortDisabled()
public void launchDS(File ff)
private void initComponents()
private void SecondsSpinnerStateChanged( ChangeEvent evt )
private void TakelmageButtonActionPerformed( ActionEvent evt )
private void AbortButtonActionPerformed( ActionEvent evt )
private void SeriesSpinnerStateChanged( ChangeEvent evt )
private void FilterToggleButtonActionPerformed( ActionEvent evt )
private void FilterAcceptButtonActionPerformed( ActionEvent evt )
private void BinAcceptButtonActionPerformed( ActionEvent evt )
private void SubframeAcceptButtonActionPerformed( ActionEvent evt )
private void BinToggleButtonActionPerformed( ActionEvent evt )
private void SubframeToggleButtonActionPerformed( ActionEvent evt )
private void OtherOptionsToggleButtonActionPerformed( ActionEvent evt )
private void OptionsAcceptButtonActionPerformed( ActionEvent evt )
private void Debug(String str)
private void Debug1 (String str)
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private void maxDECinputs() private void minDECinputs() private void SLEWinputButtonActionPerformed( ActionEvent evt ) private void GETCOORDINATESinputButtonActionPerformed( ActionEvent evt ) private void Debug(String str) private void Debug1 (String str) private void DebugError( String str ) myTelescope TelescopeObject { From chimera } Attributes private XmlRpcClient myManager private String myName public TelescopeObject( XmlRpcClient manager, String telescopeName ) private void initComponents() private void slewToObject( String name ) public void slewToRaDec( String RA, String DEC, String EPOCH) private void slewToAltAz( String position ) private void abortSlew() public boolean isSlewing() public void moveEast( double offset ) public void moveWest( double offset ) public void moveNorth( double offset ) public void moveSouth( double offset ) public String getRa() public String getDec() public String getAz() public String getAlt() public String getHA() private void getPositionRaDec( ) private void getPositionAltAz( ) private void getTargetRaDec( ) private void getTargetAltAz( ) private void syncObject( String name ) private void syncRaDec( String position ) private void syncAltAz( String position ) private void park( ) private void unpark() private boolean isParked() private void setParkPosition( String position ) private void startTracking( ) private void stopTracking() private boolean isTracking( ) myCamera

TelescopeControl

{ From chimera }

Attributes

package NumberFormat hoursDegreesMinutesFormat = NumberFormat.getInstance()

package NumberFormat decimalFormat = NumberFormat.getInstance()

package boolean DEBUG = true

package XmlRpcClient myManager

package Timer updateTimer

private JLabel ALTstatusLabel

private JLabel AMstatusLabel

private JLabel AZstatusLabel

private JLabel DECinputLabel

private JLabel DECstatusLabel

private JLabel EPOCHinputLabel

private JLabel HAstatusLabel

private JPanel InputPanel

package boolean IS\_UPDATING = false

package SwingWorker initializationWorker

package SwingWorker updateWorker

private JTextField ALTstatusTextField

private JTextField AMstatusTextField

private JTextField AZstatusTextField

private JSpinner DECinputDegreesSpinner

private JSpinner DECinputMinutesSpinner

private JSpinner DECinputSecondsSpinner

private JButton GETCOORDINATESinputButton

private JToggleButton GuideToggleButton

private JComboBox MoveOptionsComboBox

private JTextField MoveOptionsTextField

private JTextField HAstatusTextField

private JPanel MoveDirectionPanel

private JButton MoveEastButton

private JButton MoveNorthButton

private JPanel MoveOptionsPanel

private JButton MoveSouthButton

private JPanel MoveSpeedPanel

private JButton MoveWestButton

private JTextField NAMEinputTextField

private JSpinner RAinputHoursSpinner

private JSpinner RAinputMinutesSpinner

private JSpinner RAinputSecondsSpinner

private JToggleButton SlewToggleButton

private JToggleButton TrackToggleButton

private JFormattedTextField jFormattedTextField1

Operations

public TelescopeControl( XmlRpcClient manager, String telescopeName )

private void SlewToggleButtonActionPerformed( ActionEvent evt )

private void GuideToggleButtonActionPerformed( ActionEvent evt )

private void TrackToggleButtonActionPerformed( ActionEvent evt )

private void MoveNorthButtonActionPerformed( ActionEvent evt )

private void MoveWestButtonActionPerformed( ActionEvent evt )

private void MoveEastButtonActionPerformed( ActionEvent evt )

private void MoveSouthButtonActionPerformed( ActionEvent evt )

private void NAMEinputTextFieldFocusGained(FocusEvent evt)

private void EPOCHinputFormattedTextFieldFocusGained(FocusEvent evt)

private void MoveOptionsComboBoxActionPerformed( ActionEvent evt )

private void RAinputSecondsSpinnerStateChanged( ChangeEvent evt )

private void RAinputMinutesSpinnerStateChanged( ChangeEvent evt )

private void DECinputSecondsSpinnerStateChanged(ChangeEvent evt)

private void DECinputMinutesSpinnerStateChanged( ChangeEvent evt )

private void DECinputDegreesSpinnerStateChanged( ChangeEvent evt )

private void RAinputHoursSpinnerStateChanged( ChangeEvent evt )

private JTextField RAstatusTextField

private JButton SLEWinputButton

private JLabel NAMEinputLabel

private JLabel RAinputLabel

private JLabel RAstatusLabel

private JPanel StatusPanel

private JSpinner jSpinner10

private JSpinner jSpinner7

private JSpinner jSpinner8

private JSpinner jSpinner9

private void createAndShowGUI()

private void initializationWorker()

private void updatingWorker()

private void updateFields()

private void starting Values()

private void initComponents()

private void maxRAinputs()

private void minRAinputs()

private double\_calculateArcseconds()

private void updateTimerActionPerformed()

private JPanel MovePanel

private JFormattedTextField EPOCHinputFormattedTextField

private JTextField DECstatusTextField

CameraObject { From chimera } Attributes private XmlRpcClient myManager private String myName Operations public CameraObject( XmlRpcClient manager, String cameraName ) private void initComponents() private String[0..\*] expose( double exp\_time, int frames, double interval, String shutter, String binning, String window, String filename ) public boolean abortExposure( boolean readout ) public boolean isExposing() public boolean startCooling( ) public boolean stopCooling( ) public boolean isCooling( ) public boolean setTemperature( double tempC ) public double getTemperature( ) public double getSetpoint() public boolean startFan( ) public boolean stopFan() public boolean isFanning() public Object getCCDs() public Object getCurrentCCD( ) public Object getBinnings( ) public Object getADCs()

public String getPhysicalSize()

public String getOverscanSize( )

private boolean supports( String feature )

public String getPixelSize( )