**OPTICAL INSTRUMENTATION REQUEST FORM**

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| **OPTICAL INSTRUMENTATION INFORMATION: STAGNATION MODELS** |
| Please submit the completed form to the test engineer (TE) before the Test Readiness Review (TRR). This form allows the principal investigator (PI) to specify the required number of optical instruments as well as to include pertinent information. The first section will allow the PI to select the number of pyrometers to be used. The second section will allow the PI to determine the parameters for IR Camera data processing. |

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| **Test Series (title)** | |  | | **P.I.** |  | |
| **Facility** |  | **Test Series Number (assigned by TE)** | xxx | **T.E.** |  | |
| **Celsius (C)** **Fahrenheit (F)** **Kelvin (K)**  The units selected will be used for all optical instrumentation. | | | | | | |
|  | | | **Instrument** | | | **Emissivity (0-1)** |
| **Pyrometer #1 (temperature range (°C), spectral range, FOV)** | | |  | | | x.x |
| **Pyrometer #2 (temperature range (°C), spectral range, FOV)** | | |  | | | x.x |
| **Pyrometer #3 (temperature range (°C), spectral range, FOV)** | | |  | | | x.x |
| **Infrared Camera #1 (temperature range (°C), spectral range)** | | |  | | | x.x |
| *Please consult with the test engineer before making selections as the T.E. may have different recommendations.* | | | | | | |
| **Comments:** *All instruments located outside of the test box will require a correction to account for losses through windows and mirrors as appropriate. The corrections will be performed using a blackbody cavity and a designated transfer standard pyrometer. Corrections to account for material emissivity will be the responsibility of the Principal Investigator.**Pyrometer temperature data will be provided in the test data package. Each pyrometer will have associated two sets of data with suffixes \_E1 and\_E2. The E1 data represents the output from the pyrometer without correction for window losses. The \_E2 data has been corrected for transmission losses as described above.* | | | | | | |

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| **THERMAL IMAGING VIDEO** | |
| **Video Format** | AVI |
| **ROI displayed** | Yes No |
| **Emissivity (0-1)** | x.x |
| **Comments:** *Each video will begin moments before model insertion and continue until the model has been removed.* | |

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| **PYROMETER TARGET DESIGNATIONS** | |
| **Pyrometer #1** |  |
| **Comments:** *Please specify the dimensions of the target location.* ***Please attach images in the column to the right indicating each of the target locations and dimensions.*** |
| **Pyrometer #2** |
| **Comments:** |
| **Pyrometer #3** |
| **Comments:** |

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| **INFRARED CAMERA DATA PROCESSING** | | | |
| **Line Profiles** | | | |
| **# of Line Profile Reports** | |  |  |
| **Emissivity (0-1)** | | x.x |
| **ROI (Region of Interest)** | | |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| **Comments:** *Line Profiles refer to a specific type of data report given to customers as a portion of the Thermal Imaging packet. Line Profiles display temperature values along a specified line. Lines are fully customizable in terms of orientation or distance as long as it resides within the overall image being captured. Up to four lines may be created per report with additional lines possible if requested. Each Line Profile Report generated will contain an image of the model, a graph displaying the temperature as a function of the line, and tabulated temperature data corresponding to the line pixel distance for one specific frame. Typical reports contain 3 to 5 reports with each representing a single frame within the video sequence.* ***Please attach images in the column to the right with simple lines indicating location and dimensions.*** | | |

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| **Time-Temperature Profiles** | | | |
| **Time-Temp Graph** | | Minimum  Maximum  Average |  |
| **Emissivity (0-1)** | | x.x |
| **ROI** | | |
| # | Shape | Color |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| **Comments:** *Time Temperature Reports refer to another type of data given to customers as a portion of the Thermal Imaging packet. Time Temperature reports provide 3 types (Minimum, Average, and Maximum) of temperature data for individual ROIs as a function of the video sequence in frames. The report generated will contain an image of the model, graph displaying the ROI temperature as a function of the frames, and the ROI tabulated data. The PI has the option of selecting reports in either minimum, maximum, or average value. For example, if a maximum report is chosen and the shape of a circle is chosen, then the highest temperature within the circle will be displayed and recorded on the graph and data tables. A maximum of 4 ROIs may be selected for each report.* ***Please attach images in the column to the right with shape of choice indicating location and dimensions.*** | | |