

Ultraviolet (UV) Parabolic Simulator (UVPS)

System Description

The UVPS is an advanced stimulator for testing Missile Warning Systems (MWS) operating in the UV-C spectrum. It is ruggedly designed so that it can be tripod-mounted and used in the field, or in the development or production laboratory. The MWS can be mounted on an optical table (if testing in the laboratory), or the installed MWS system can be tested on the flight line. The UVPS produces a strong beam of UV radiation with user programmable temporal dependence, to test the response of the MWS to a multiplicity of threats and approach scenarios, according to need.

As an option, the UVPS can be upgraded to be an integrated warning and countermeasure system tester, by the addition of a dedicated infrared radiometer, which measures the IR countermeasures and/or jam beam function, in case a threat has been detected and declared as such.



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Features and advantages of the UVPS system

- ◇ Compact and light (man-portable)
- ◇ The source is highly stable and durable.
- ◇ Its large diameter beam is strong enough to allow MWS testing in-flight up to a kilometer.
- ◇ It has a high dynamic range and very short maximum to minimum intensity transition time.
- ◇ Required low power enabling it to be used in the field with a battery pack.
- ◇ It has user programmable threat profiles through a user friendly software interface.
- ◇ The UVPS comes calibrated from the factory in radiant intensity units of Watts/steradian.
- ◇ Interfaces a PC with single USB port.

Options

- ◇ It automatically tracks the aircraft through a video tracker and tracking pedestal to make sure the MWS is constantly exposed to the UVPS stimulus, irrespective of the aircraft movement.
- ◇ The UVPS can be equipped with an IR radiometer, capable of assessing integrated missile warning and IR countermeasure systems, by measuring the latencies (the time between detection and declaration) and the IR countermeasures output radiation, intensity, time dependency, etc.
- ◇ A range finder can be included to measure target distance and use this distance to adjust/scale radiation profiles

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Specifications

<i>Specification</i>	<i>Value</i>	<i>Remarks</i>
Beam Divergence [deg]	30	FWHM
Wavelength range [nm]	270-280	
On-Axis Radiant Intensity [Watt/str]	0.4	
UV rise/fall time [nsec]	<20	
Single engagement dynamic range	>800	
Bandwidth [Hz]	200	
Warm-up time [sec]	<2	
Environmental	Withstands field conditions	
Weight [Kg]	<10	For optical unit
Clear aperture diameter [cm]	40	
Visible output	<10 Watt bulb	
Dimensions [cm]	32 x 43 x 54	L x W x H

