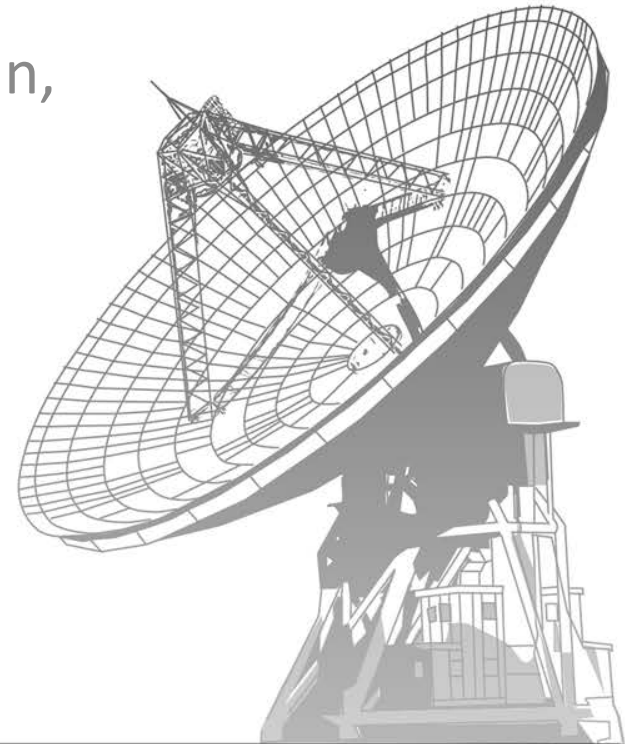


# The Nobeyama 45-m telescope, 1982

National Astronomical Observatory of Japan,  
Nobeyama Radio Observatory (NRO)  
and  
Mitsubishi Electric Corporation,  
Communication Division



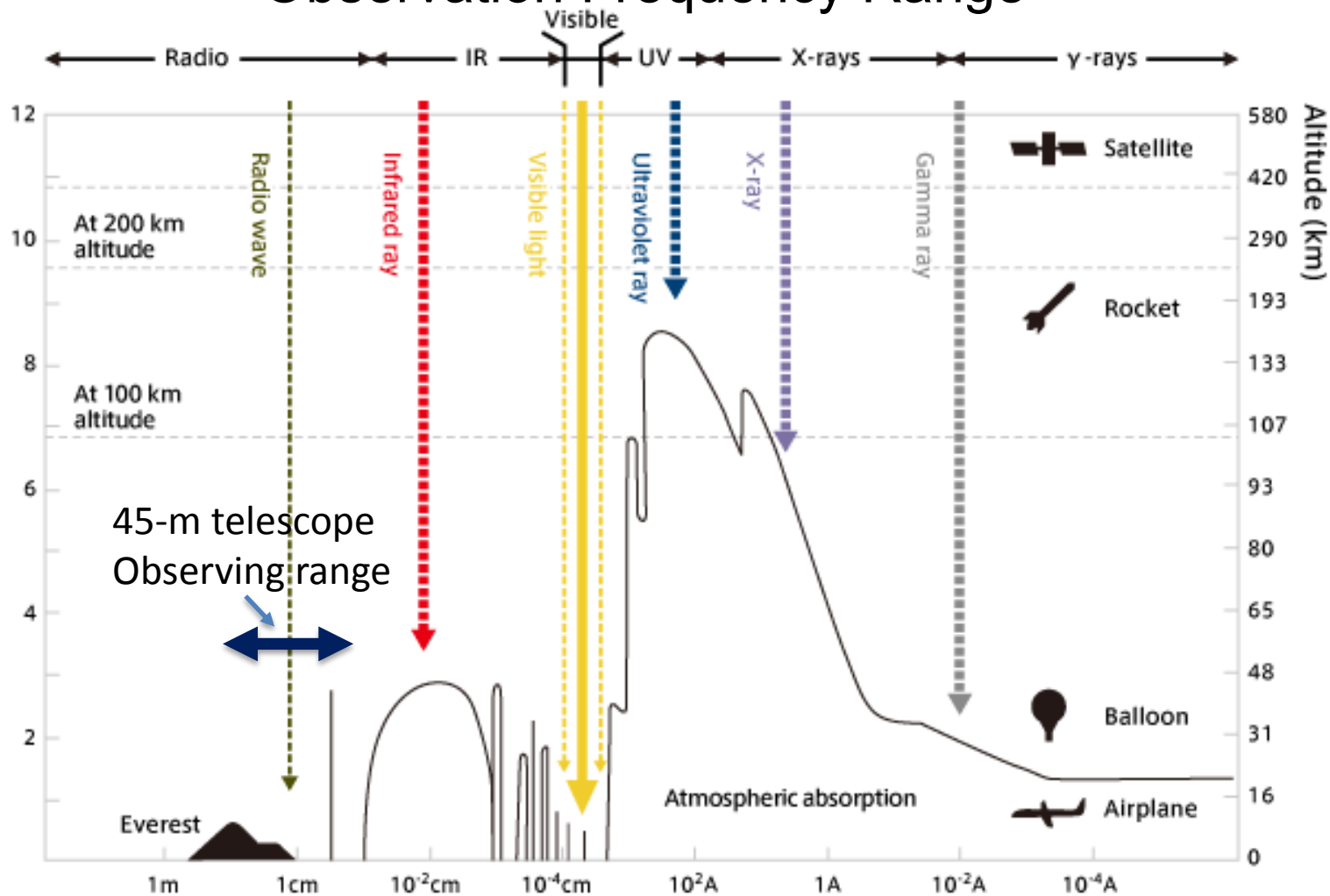
# Overview of Nobeyama Radio Observatory

## The Nobeyama 45-m Telescope



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# Observation Frequency Range

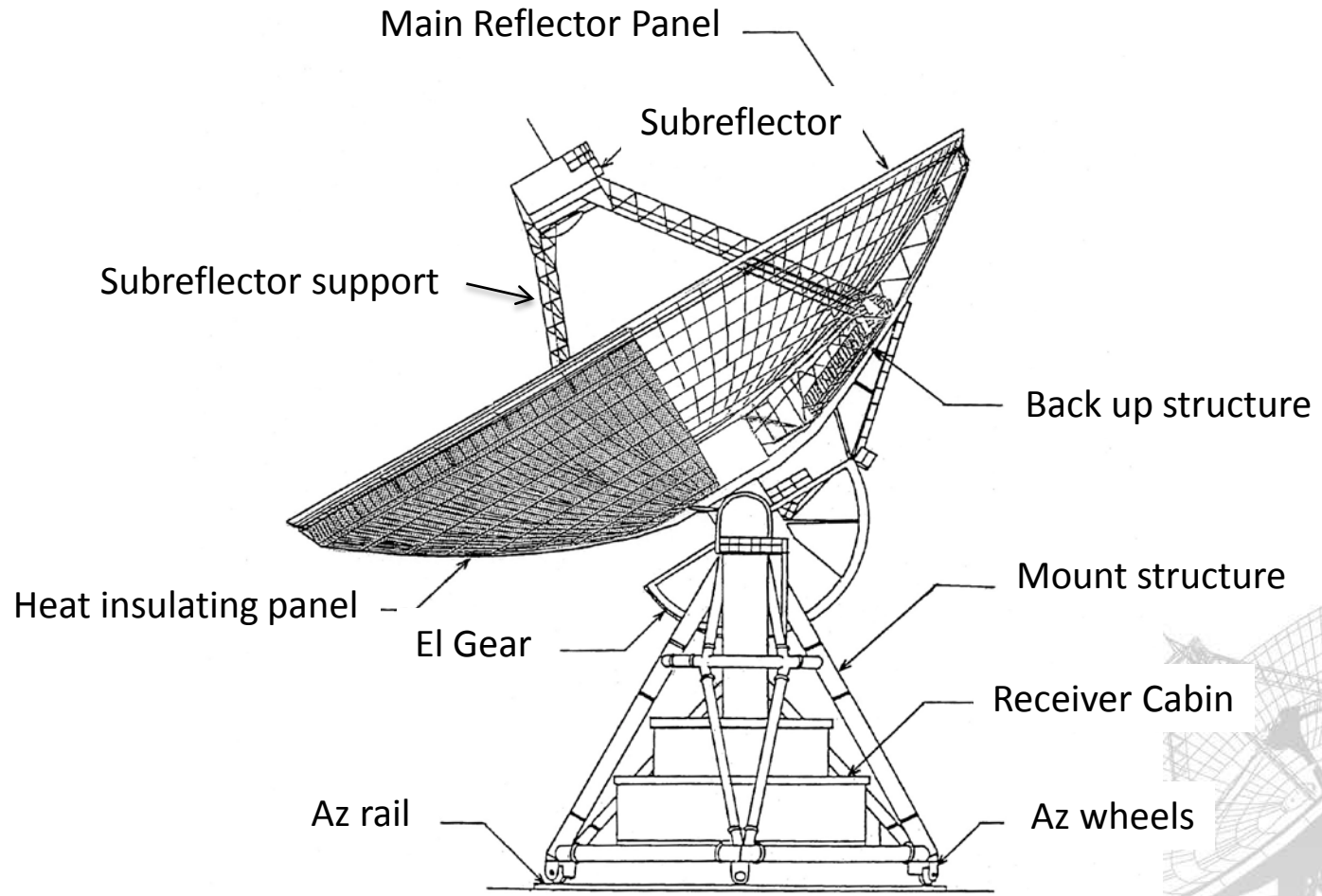


# Nobeyama 45-m Telescope



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# Antenna



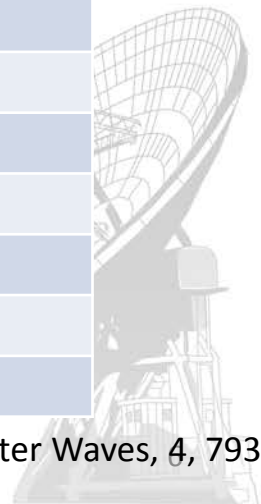
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# Major Performance of Nobeyama 45-m Telescope

Major Parameters at the construction

Item	Performance
1. Antenna	
1.1 Feed Type	Beam waveguide feed and Front feed
1.2 Mount Type	Elevation/Azimuth
1.3 Diameter	45 m
1.4 Weight	700,000 kg
2 Electronical Performances	
2.1 Frequency Range	1.4 – 150 GHz
2.2 Aperture efficiency	65 % at 5 GHz, 59 % at 22 GHz, 25 % at 86 GHz
2.3 Noise temperature	23 K at 22 GHz at 20 degrees in El
3 Mechanical performance	
3.1 Surface Accuracy	0.2 mm RMS
3.2 Pointing error	0.003 degree (0.001 degree RMS)
3.3 Coverage	Az = -270 - +270 degrees, El = 9 - 93 degrees
3.4 Maximum drive speed	0.5 degree/second
4 Environmental Conditions	
4.1 Temperature	-25 – +30 degrees,
4.2 Wind (survival)	65 m/second



[1] Akabane, K., "A large millimeter wave antenna", 1983 International Journal of Infrared and Millimeter Waves, 4, 793