

REMOTE SENSING DAY II

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UHUZAM

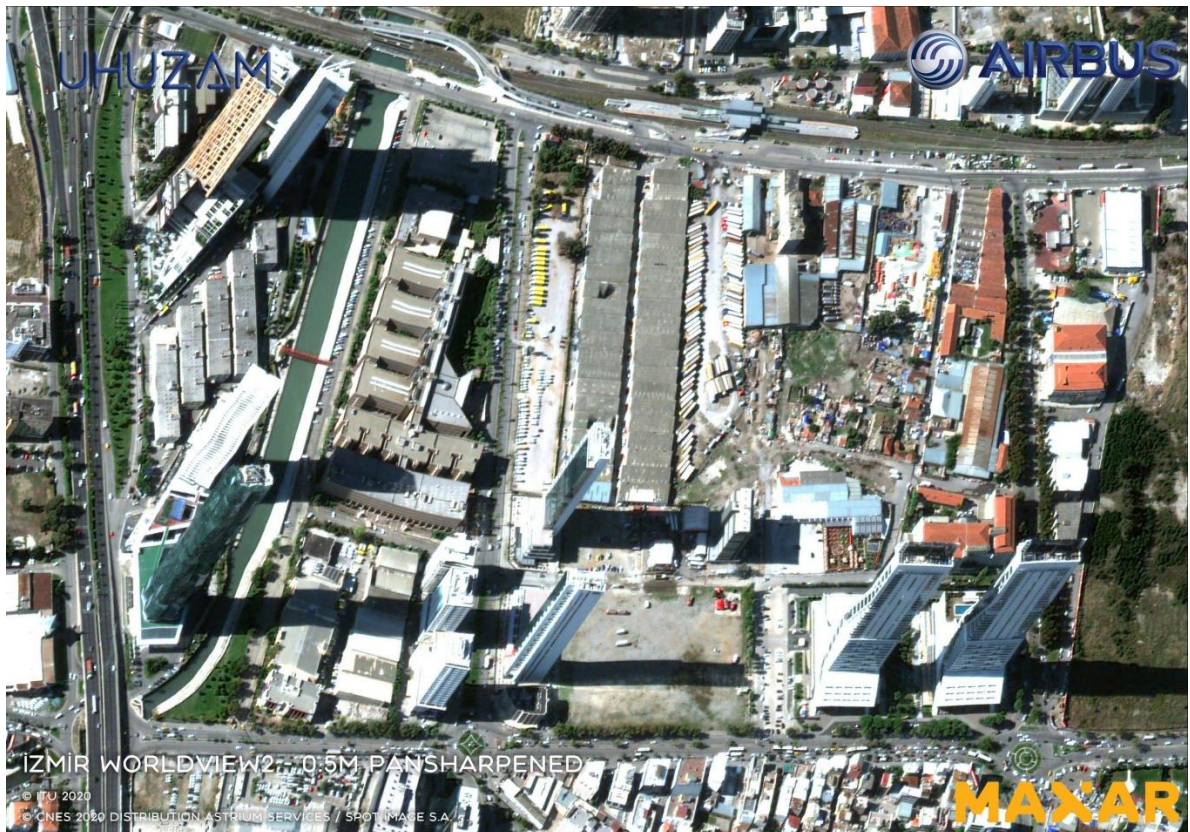


The first ground station and center in Turkey established with the purpose of carrying out research and project-oriented applications in remote sensing and satellite communication technologies is the Remote Sensing and Satellite Communications Application and Research Center (UHUZAM UYG-AR) at Istanbul Technical University. The facility has two 2.4- and 4.6-meter-diameter VSAT antennas for receiving data from Ku-band communication satellites and a 13-meter remote sensing antenna for receiving data from X-band remote sensing satellites covering an area with a 3000 km radius. The largest satellite picture library in Turkey is held by UHUZAM UYG-AR, which has been receiving data from remote sensing satellites with medium, high, and very high resolutions since 2002.

The center's archive contains pictures from RADARSAT-1 from 2002 to 2013, ERS-2 and NOAA 14, 15, 16, and 17 from 2002 to 2005, SPOT-2 from 2002 to 2009, SPOT-4 from 2002 to 2013, and SPOT-5 from 2009 to 2015. Agreements for the telemetry of the SPOT-6 satellite and the PLEIADES 1A and 1B satellites were established in 2013 and 2014, respectively, and the image archiving for these satellites has started.

The center directly collects data from remote sensing satellites with large coverage areas (Spot series: 60 km x 60 km; Pleiades: 20 km x 20 km) and high spatial resolutions ranging from 0.5 to 5 meters. Through satellite linkages and fiber internet, the processed photographs or value-added goods are transmitted to national and international users. The center organizes and carries out research and application projects on a national and worldwide scale, as well as educational initiatives in the areas of remote sensing and computer technology.

UHUZAM is also involved in the aviation industry. He studies subjects including unmanned aerial vehicles (UAV), air traffic control, aircraft engineering, and aviation security. These studies help to expand Turkey's aviation capacity and to create new technologies in the aviation industry. The center provides training opportunities for students at the undergraduate, graduate, and doctoral levels in the areas of remote sensing and aviation. By working with the industry, it also carries out projects geared toward the sector and creates technology solutions. Below are a few sample satellite images taken from UHUZAM, satellite names and resolutions.





Spectrum (Reflectance) of the Selected Vegetation Target

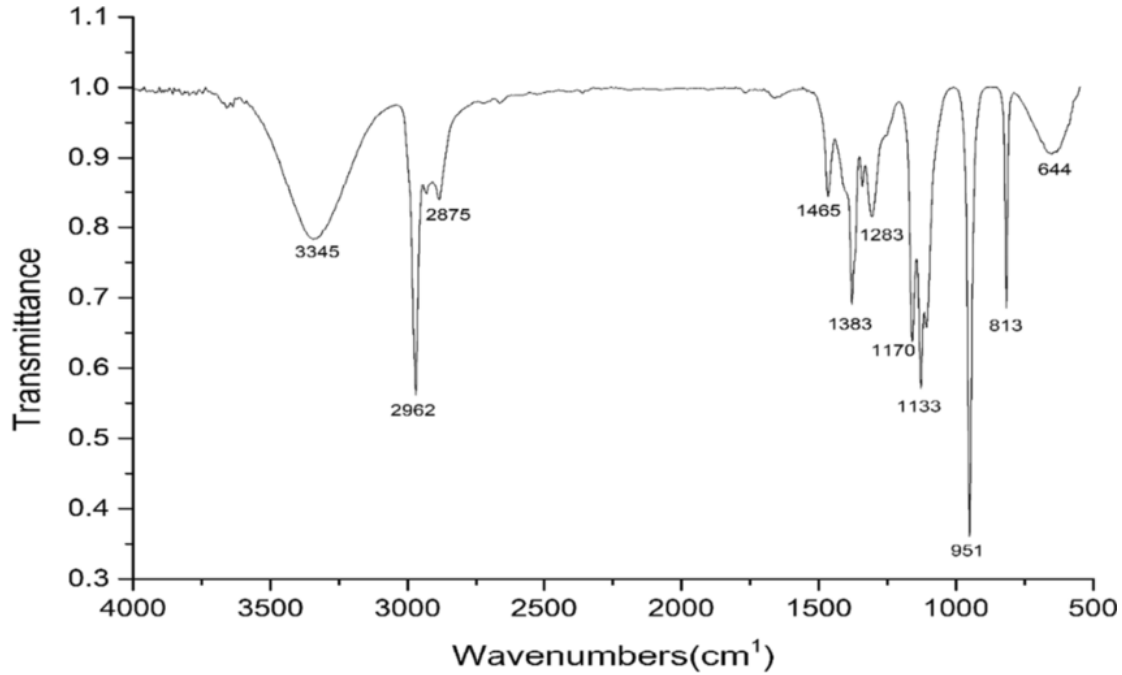


Pelargonium inquinans (L.) L'Hér.
Sardunya

Geraniaceae

DETAYLAR





A plant known as *Pelargonium inquinans*' spectrum view was analyzed, and it was found that the transmittance value was often 1.0. Instantaneous transmittance drops were found in some wavenumbers, including 2962, 1383, 1170, 1133, 951, and 813, however. Due to changes in the plant's spectral characteristics, the transmittance of light dropped in certain wave numbers. These reductions show that the wavelengths at which *Pelargonium inquinans* absorbs or reflects have significant consequences. For instance, changes in transmittance at certain wavelengths may be caused by the pigmentation of the plant's color or by the presence of chemical substances connected to the molecular structure of the plant. These spectral qualities might be connected to the spectral absorption or reflection properties of plant photosynthetic pigments, color molecules, or other substances. The spectral properties of the plant *Pelargonium inquinans*, of these instantaneous transmittance dips, may be better understood with additional examination and study.