

RADIO WAVES IN THE HF SPECTRUM ALL REFRACT OFF DIFFERENT LAYERS IN THE IONOSPHERE THE DEGREE OF REFRACTION AND ENERGY LOSS IS RELATED TO THE SOLAR EXCITATION OF EACH LAYER ON THE HIGHER BANDS 10 THROUGH 20 PROPAGATION TENDS TO IMPROVE DURING DAYTIME HOURS ON THE LOWER BANDS 30 THROUGH 80 PROPAGATION TENDS TO IMPROVE DURING DARKNESS HOURS THE SUN CAUSES THE IONOSPHERIC EXCITATION AND IT INCREASES WHEN THERE ARE MORE SUNSPOTS AND DECREASES WHEN THERE ARE FEWER THE NUMBER OF SUNSPOTS INCREASES AND DECREASES IN A CYCLE THAT TYPICALLY TAKES 11 YEARS TO COMPLETE SO IF WE REACH A PEAK IN 2025 WE WILL REACH ANOTHER PEAK IN 2036 AROUND 2030 OR 2030 THERE WILL BE FEWER IF ANY SUNSPOTS AND MANY BANDS WILL APPEAR TO BE USELESS |