Appendix B. Supplementary figures

The figures in this appendix complete the series of plots showing the remaining models not discussed in detail in the main text.

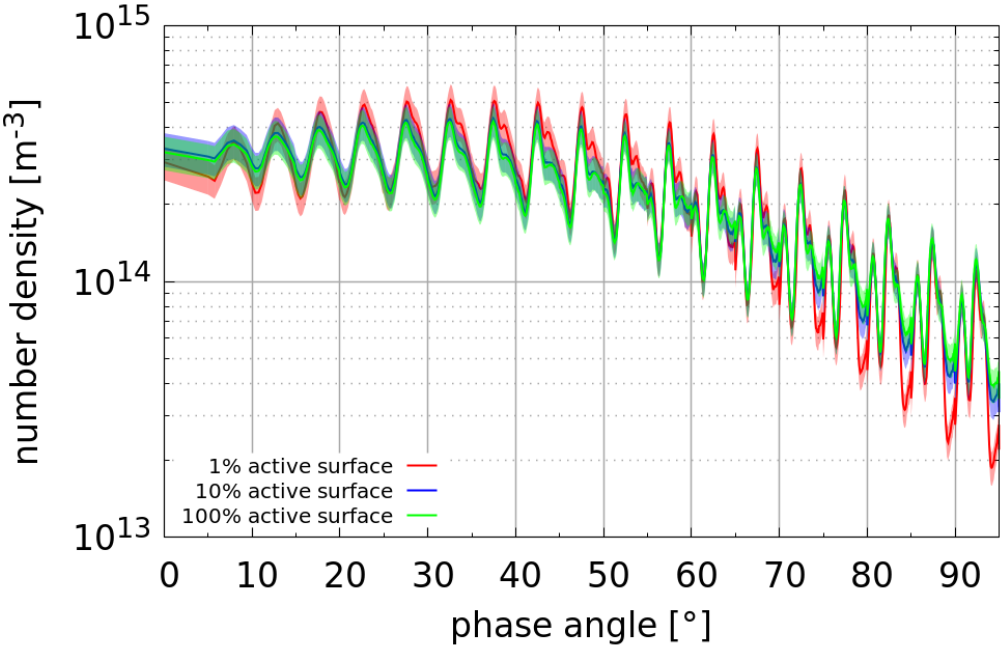

Figure B.26: Local gas number density [m^{-3}] as a function of phase angle comparing the 100% (green), 10% (blue), and 1% (red) active surface models with large patches for the low activity case.

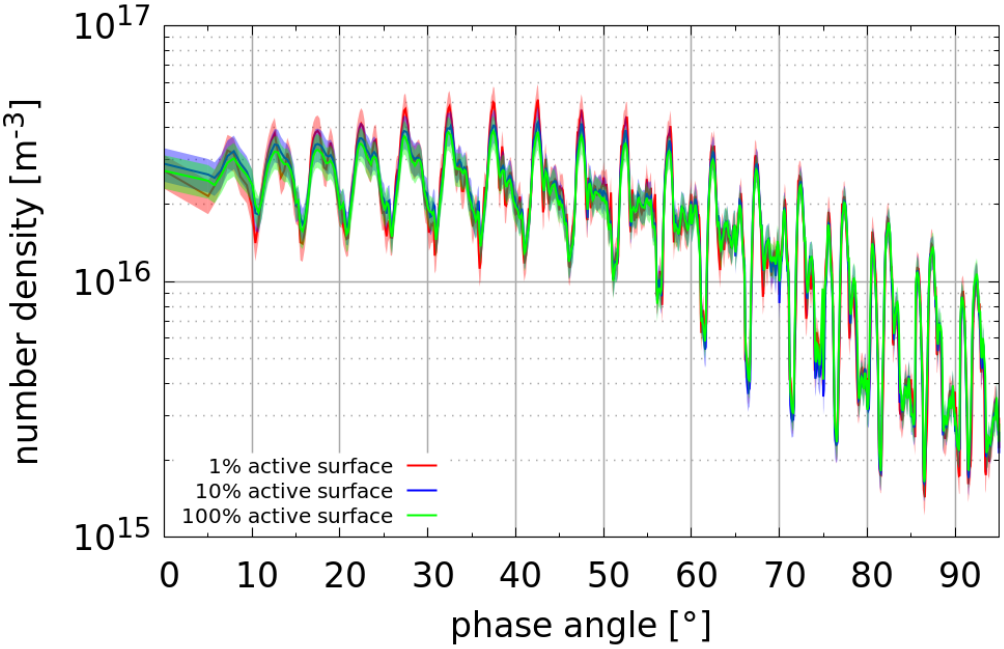

Figure B.27: Local gas number density [m^{-3}] as a function of phase angle comparing the 100% (green), 10% (blue), and 1% (red) active surface models with small patches for the high activity case.

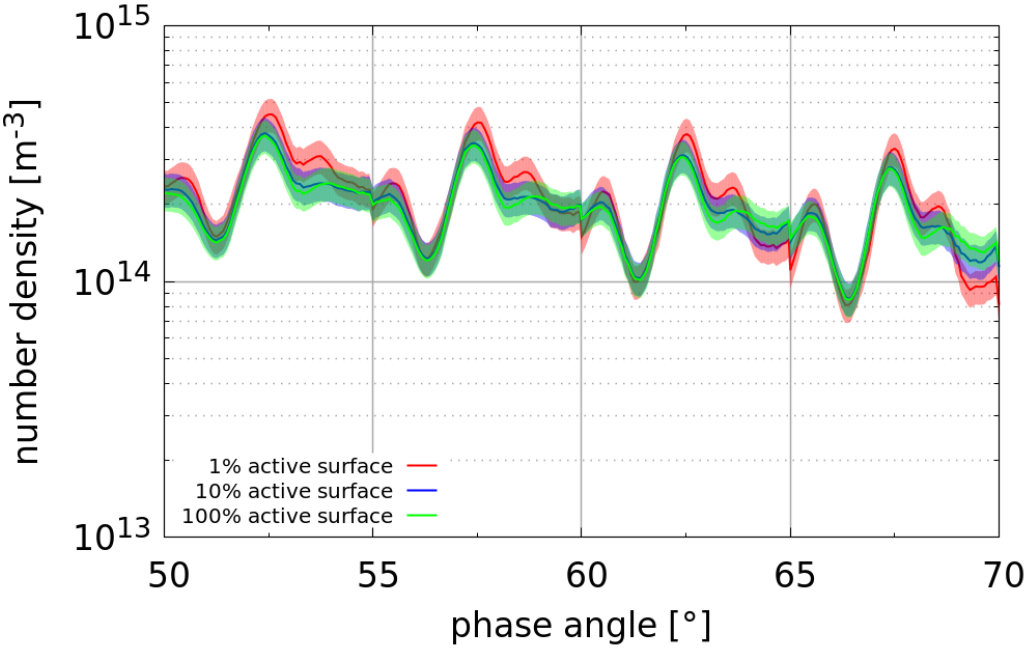

Figure B.28: Local gas number density [m^{-3}] as a function of phase angle between 50 – 70° comparing the 100% (green), 10% (blue), and 1% (red) active surface models with large patches for the low activity case.

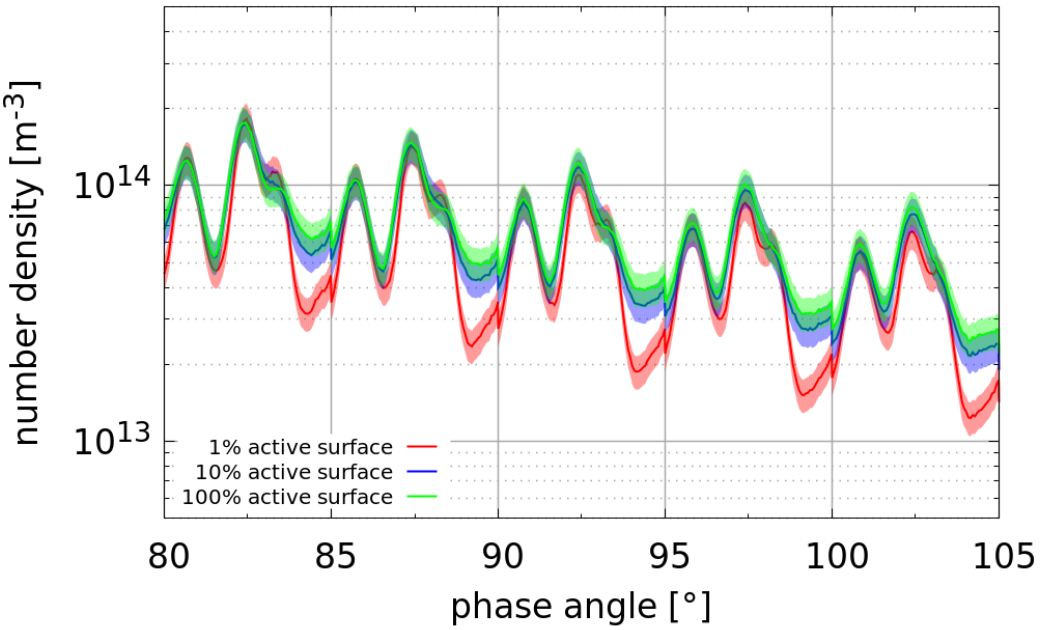

Figure B.29: Local gas number density [m^{-3}] as a function of phase angle between 80 – 105° comparing the 100% (green), 10% (blue), and 1% (red) active surface models with large patches for the low activity case.

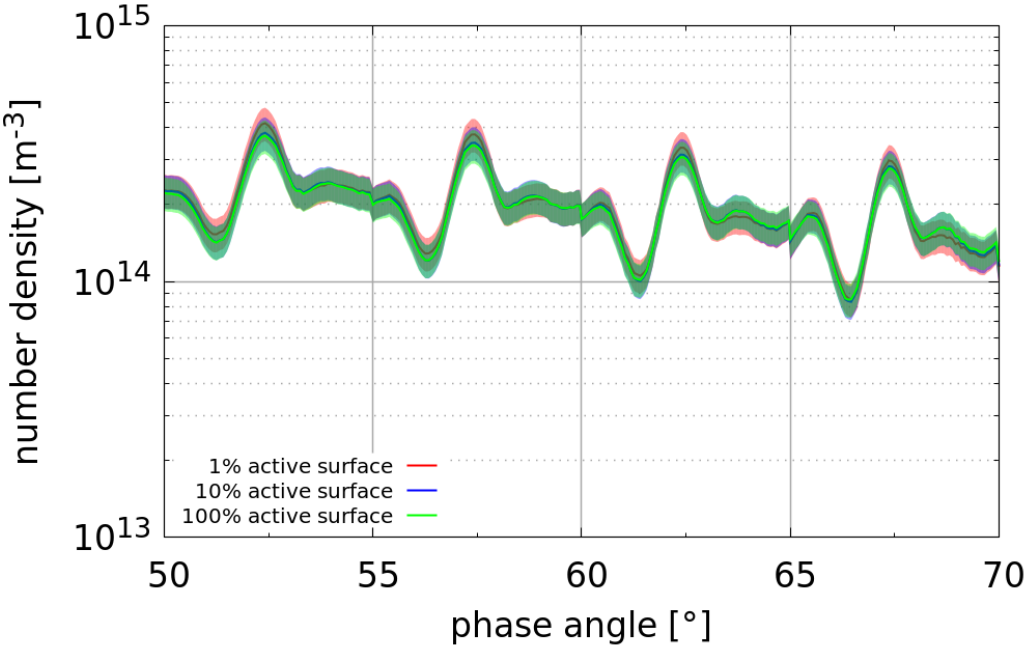

Figure B.30: Local gas number density [m^{-3}] as a function of phase angle between 50 – 70° comparing the 100% (green), 10% (blue), and 1% (red) active surface models with small patches for the low activity case.

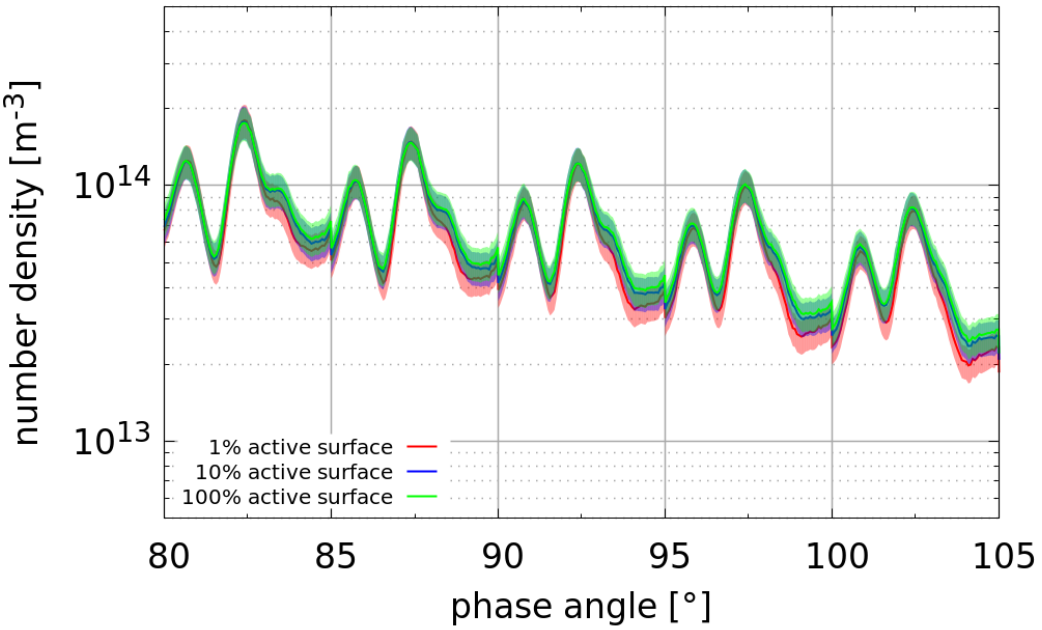

Figure B.31: Local gas number density [m^{-3}] as a function of phase angle between 80 – 105° comparing the 100% (green), 10% (blue), and 1% (red) active surface models with small patches for the low activity case.

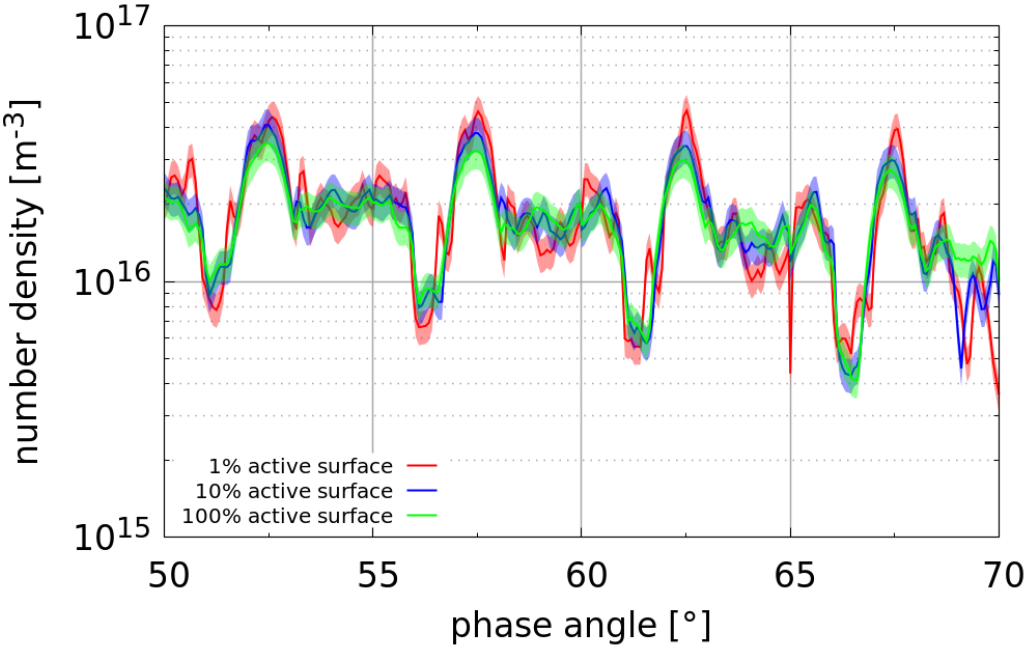

Figure B.32: Local gas number density [m^{-3}] as a function of phase angle between 50 – 70° comparing the 100% (green), 10% (blue), and 1% (red) active surface models with large patches for the high activity case.

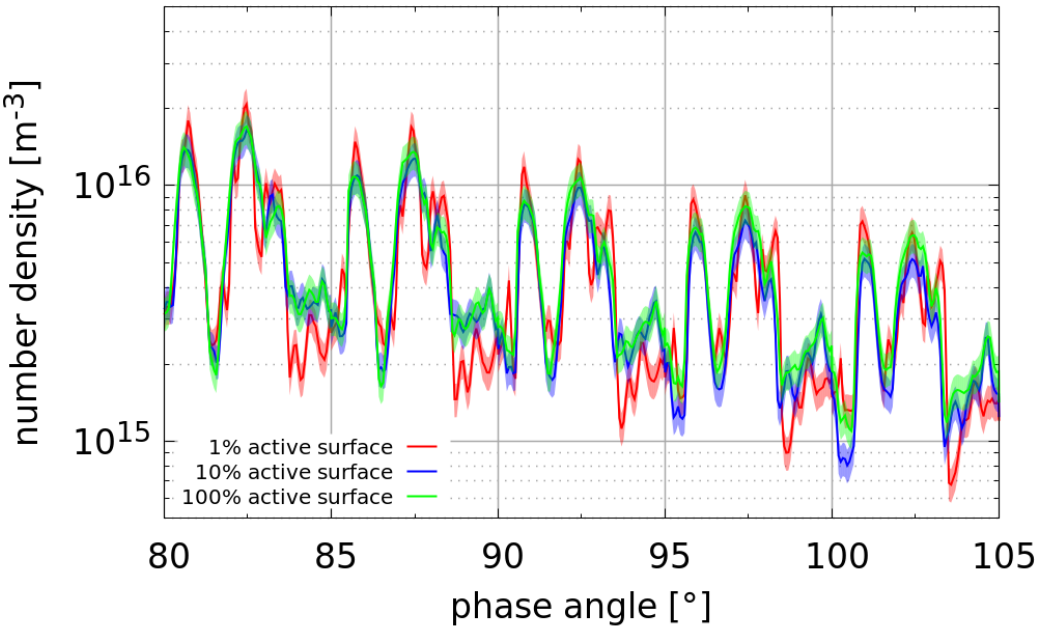

Figure B.33: Local gas number density [m^{-3}] as a function of phase angle between 80 – 105° comparing the 100% (green), 10% (blue), and 1% (red) active surface models with large patches for the high activity case.

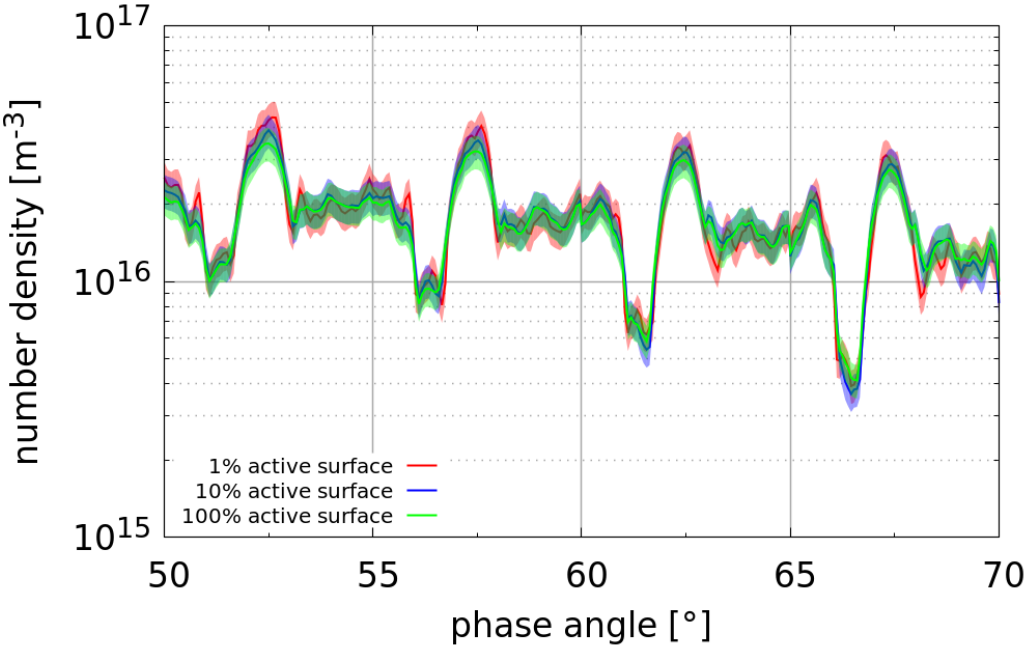

Figure B.34: Local gas number density [m^{-3}] as a function of phase angle between 50 – 70° comparing the 100% (green), 10% (blue), and 1% (red) active surface models with small patches for the high activity case.

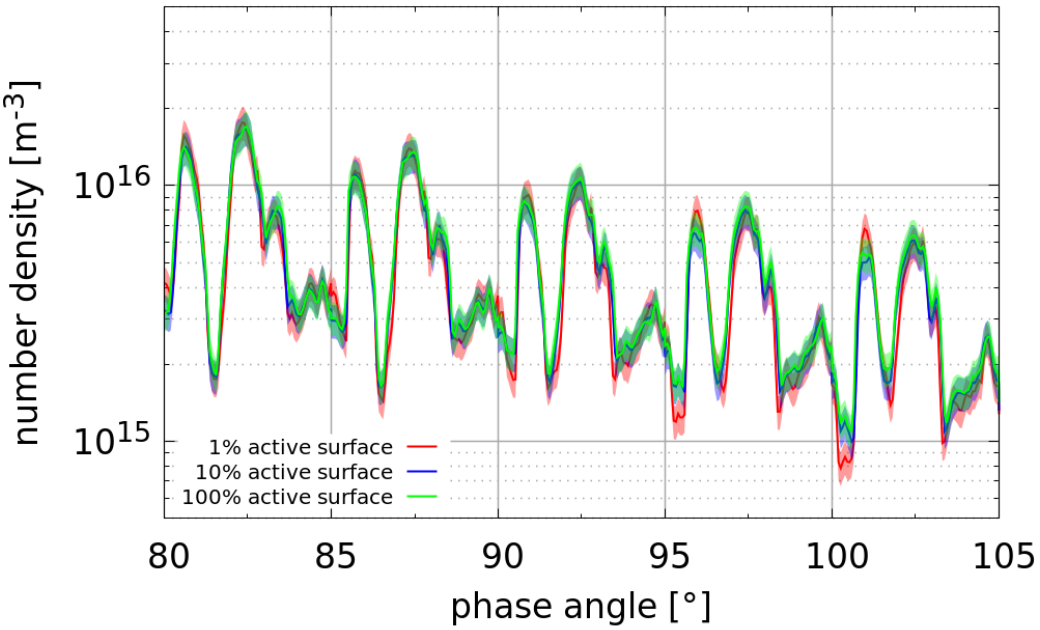

Figure B.35: Local gas number density [m^{-3}] as a function of phase angle between 80 – 105° comparing the 100% (green), 10% (blue), and 1% (red) active surface models with small patches for the high activity case.

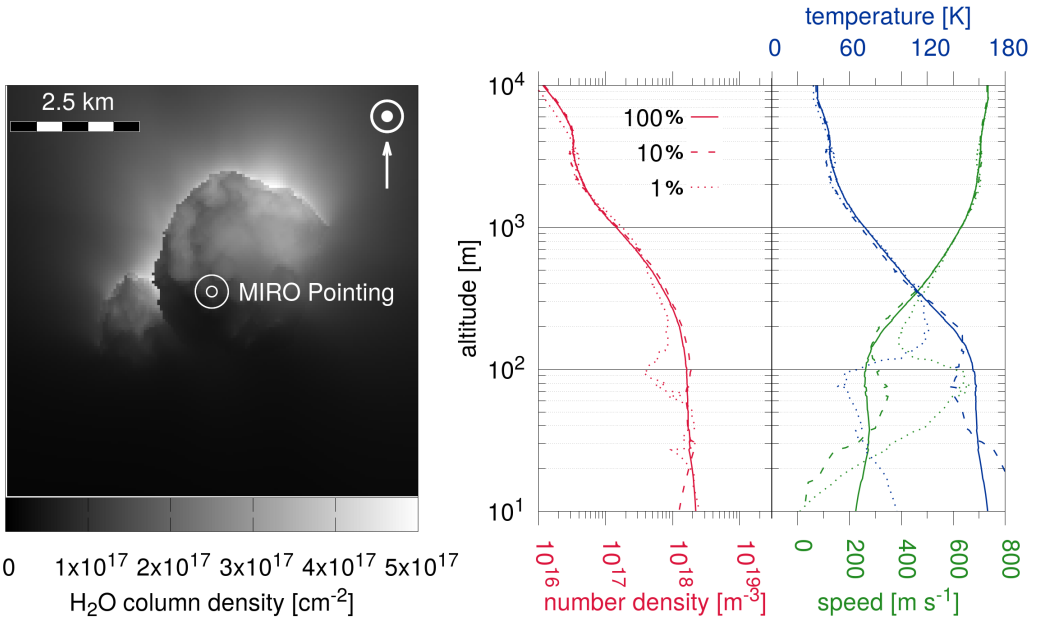

Figure B.36: Shows the same properties as Fig. 13 but for small patches with high global gas production rate.

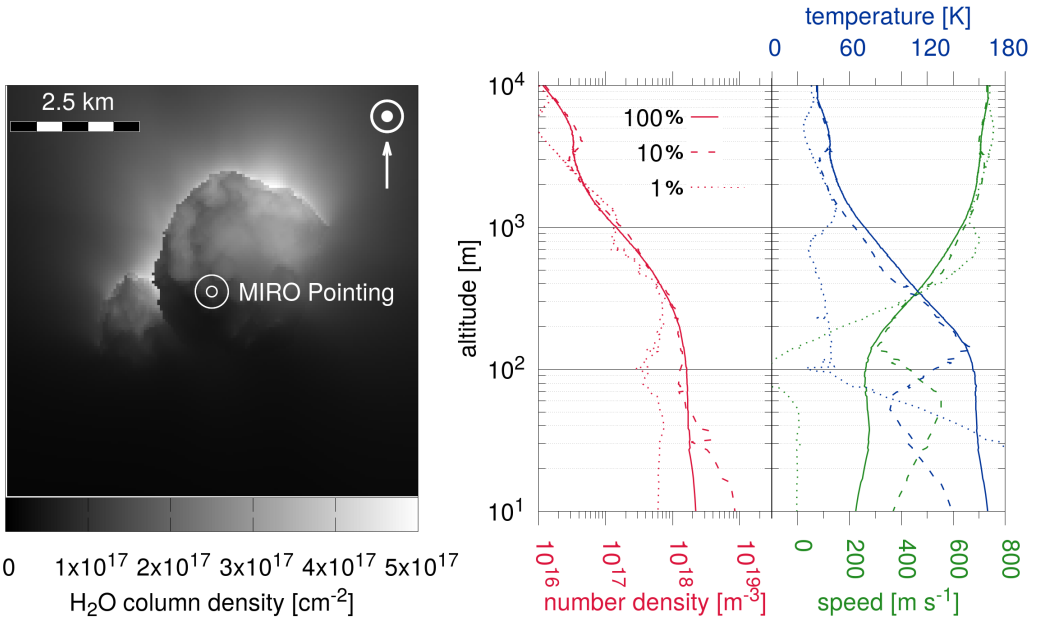

Figure B.37: Shows the same properties as Fig. 13 but for large patches with high global gas production rate.

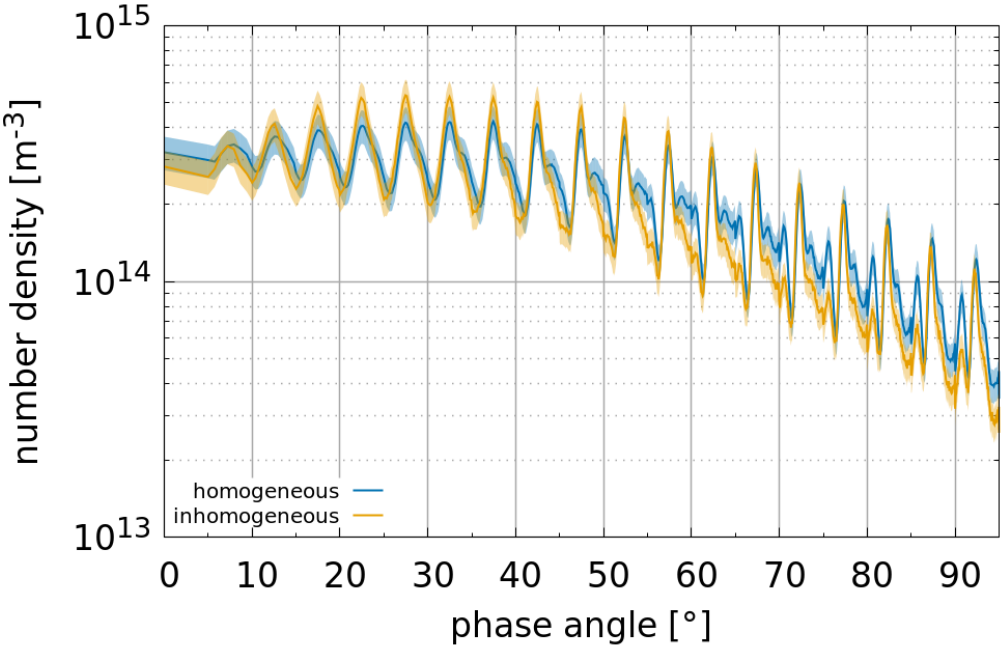

Figure B.38: Local gas number density [m^{-3}] as a function of phase angle comparing the low production rate cases of the 100% active surface models with homogeneous (blue) and Imhotep inhomogeneous (orange) ice distribution. The bands indicate ±15% error intervals.

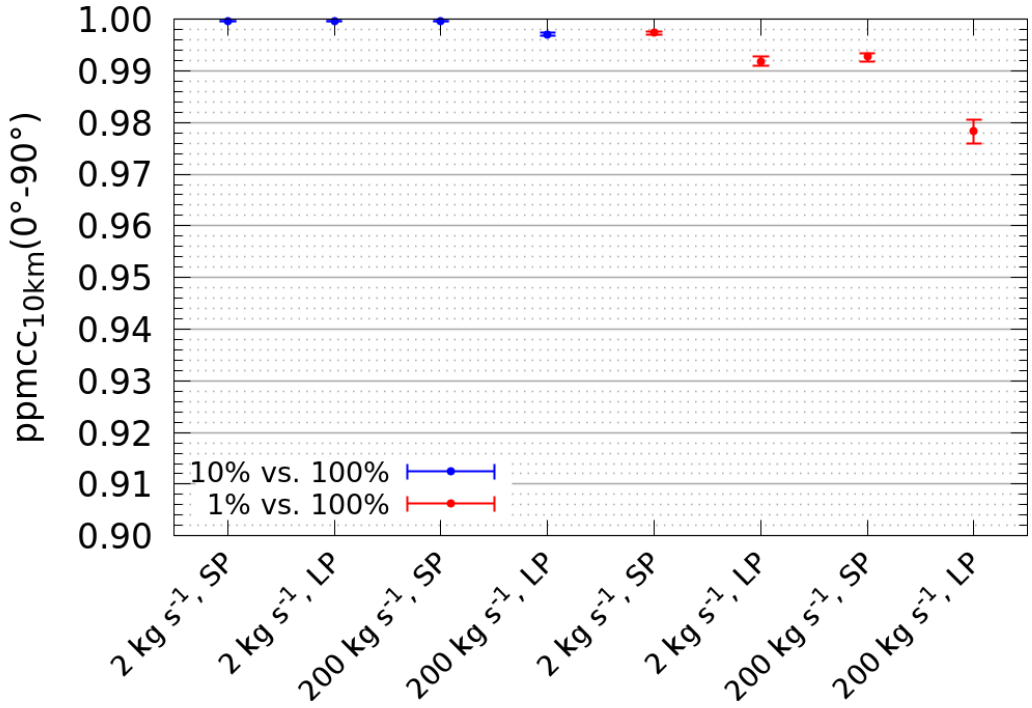

Figure B.39: Pearson product-moment correlation coefficient (PPMCC) for the eight patchy Hapi inhomogeneous cases comparing the 10% (blue), and 1% (red) active surface cases with small patches (SP) and large patches (LP) to the 100% active surface case. The error bars represent a 2σ confidence interval. The values have been calculated with the number densities at 10 km and for phase angles covering $0 - 90°$.

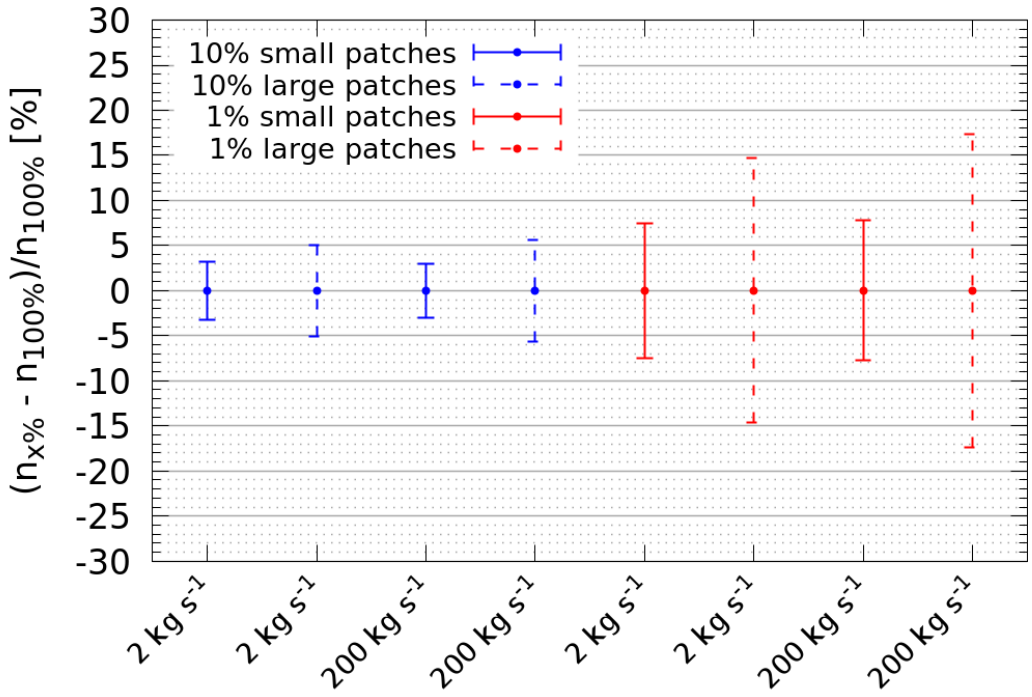

Figure B.40: Mean relative difference between the number density of the eight patchy Hapi inhomogeneous cases comparing the 10% (blue), and 1% (red) active surface cases with small patches (solid lines) and large patches (dashed lines) to the 100% active surface case. The error bars represents the standard deviation of the number density differences.

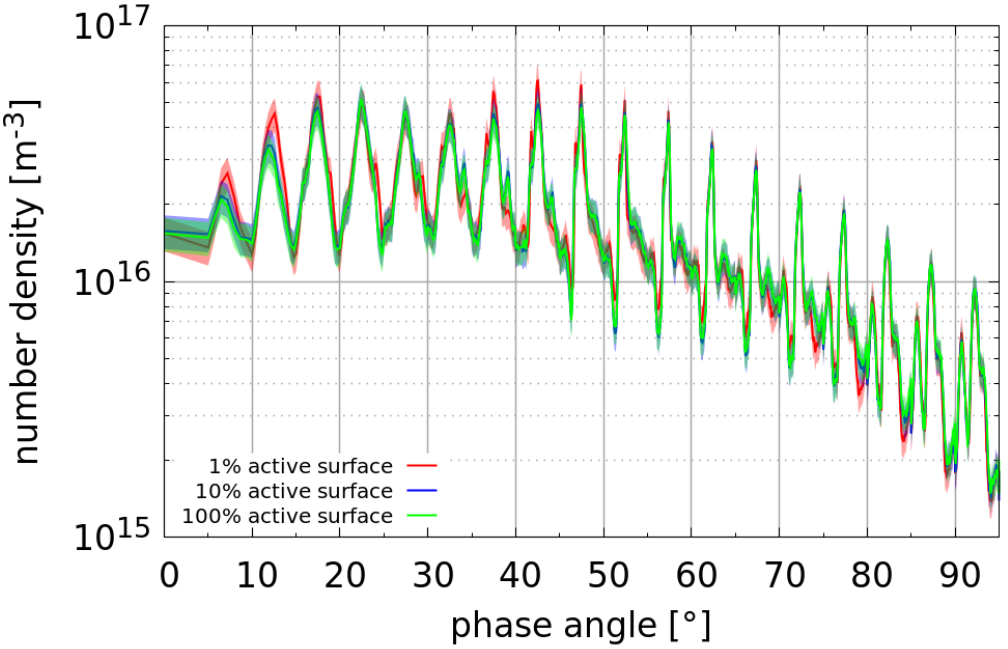

Figure B.41: Local gas number density [m^{-3}] as a function of phase angle comparing the 100% (green), 10% (blue), and 1% (red) active surface models with small patches for the high activity case. The bands indicate ±15% error intervals.

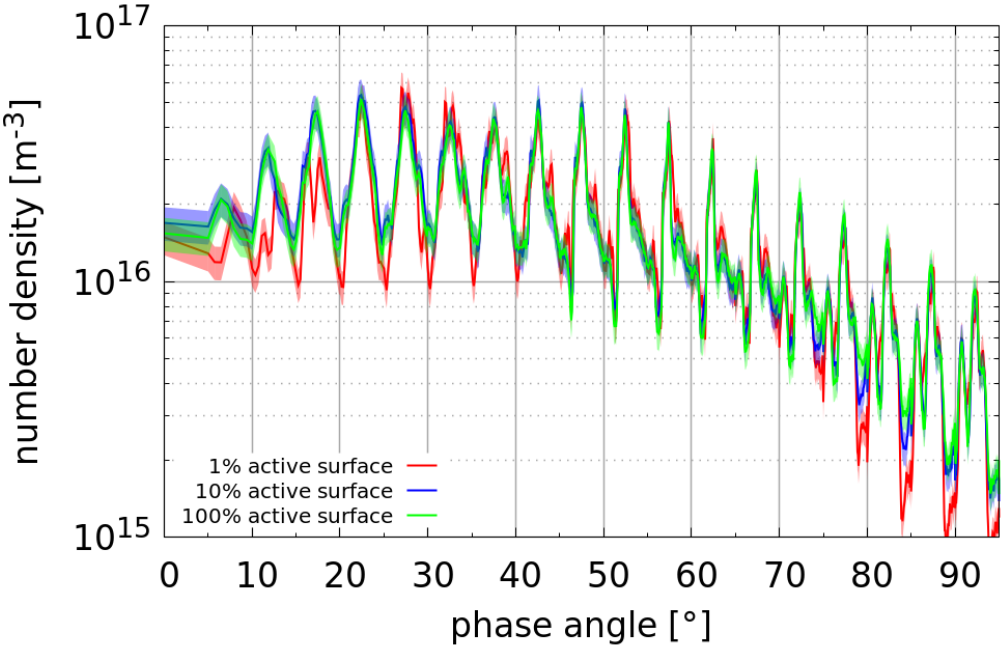

Figure B.42: Local gas number density [m^{-3}] as a function of phase angle comparing the 100% (green), 10% (blue), and 1% (red) active surface models with large patches for the high activity case. The bands indicate ±15% error intervals.

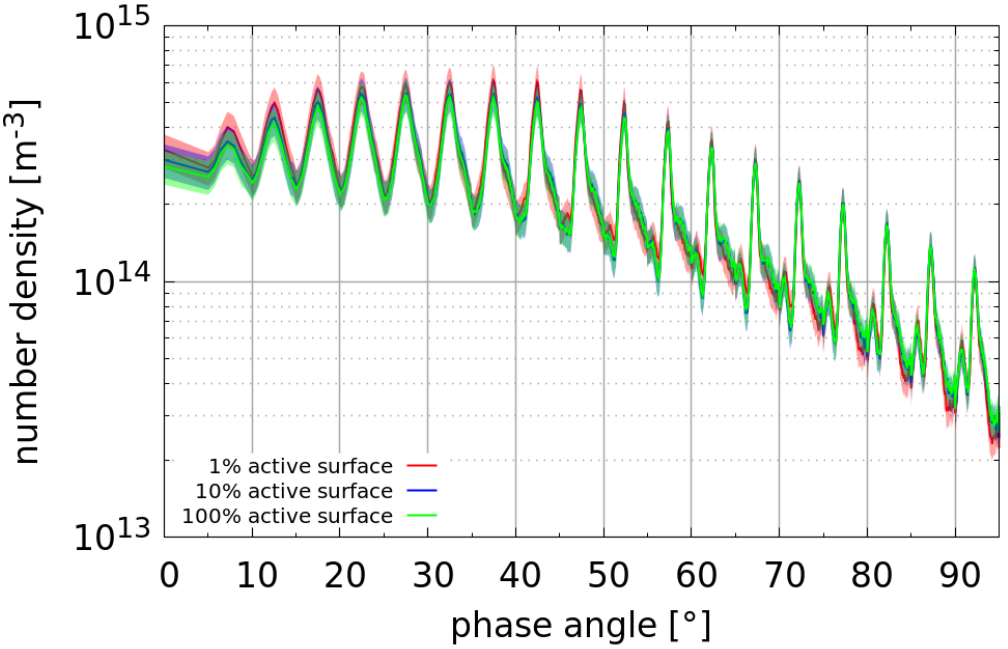

Figure B.43: Local gas number density [m^{-3}] as a function of phase angle comparing the 100% (green), 10% (blue), and 1% (red) active surface models with small patches for the low activity case. The bands indicate ±15% error intervals.

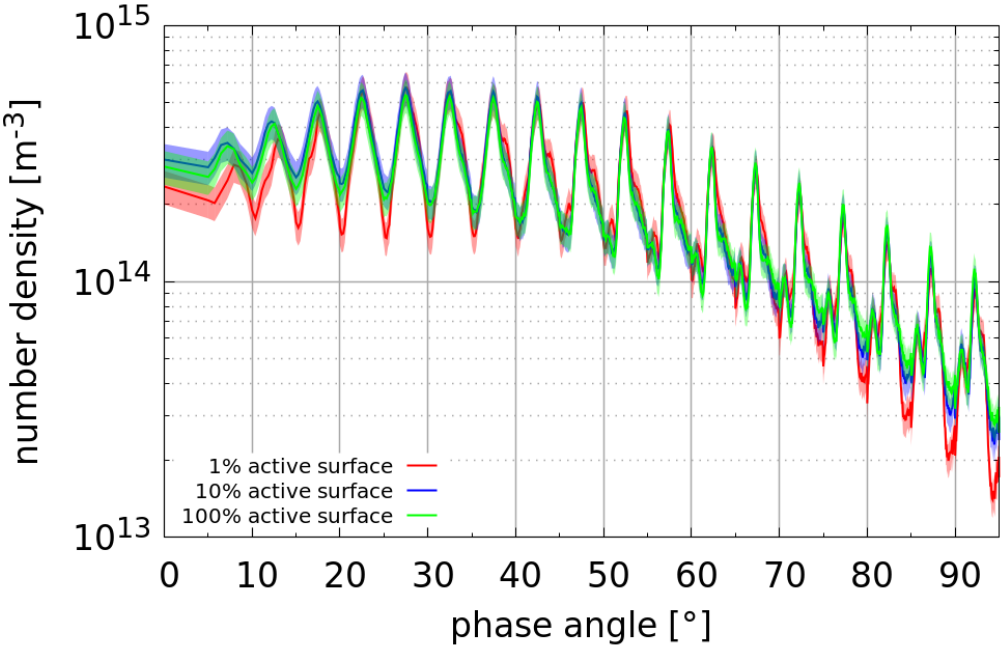

Figure B.44: Local gas number density [m^{-3}] as a function of phase angle comparing the 100% (green), 10% (blue), and 1% (red) active surface models with large patches for the low activity case. The bands indicate ±15% error intervals.

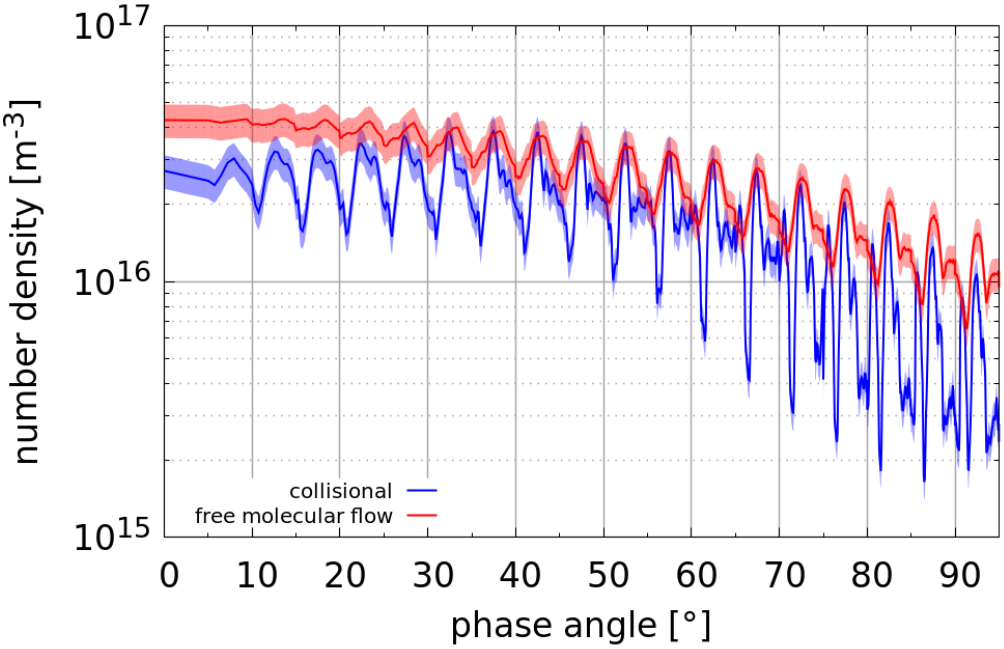

Figure B.45: Local gas number density [m^{-3}] as a function of phase angle comparing the 100% active surface models assuming the full physics of collisions (blue) and free molecular flow (red) for the high gas production rate.