# 1 Bare

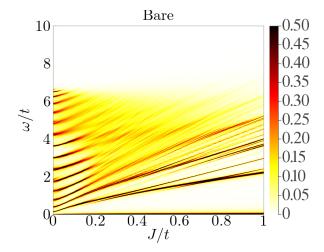


Figure 1: Interactions: ON

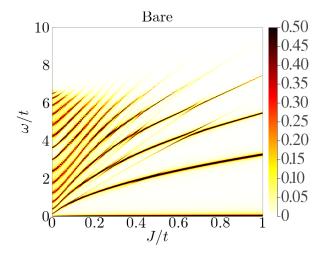


Figure 2: Interactions: OFF

## 2 Single hop – interacting

## ${\bf 3}\quad {\bf Single\ hop-non-interacting}$

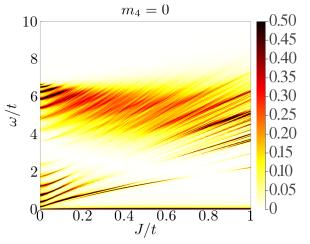


Figure 3: Interactions: ON

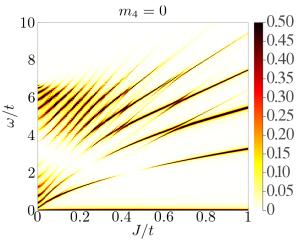


Figure 5: Interactions: OFF

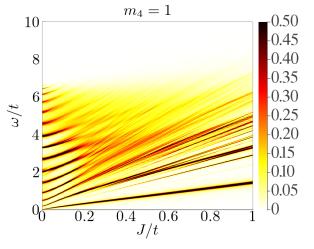


Figure 4: Interactions: ON

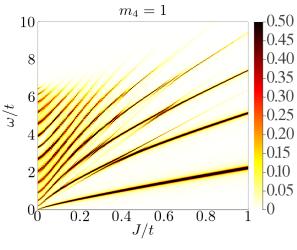


Figure 6: Interactions: OFF

# 4 Double hop – interacting

# $\begin{array}{c} m_4, m_3 = 0, 0 \\ 8 \\ 6 \\ -0.45 \\ -0.40 \\ -0.35 \\ -0.30 \\ -0.25 \\ -0.20 \\ -0.15 \\ -0.10 \\ -0.05 \\ 0 \end{array}$

Figure 7: Interactions: ON

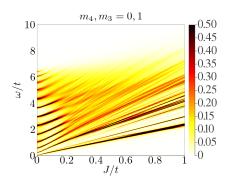


Figure 8: Interactions: ON

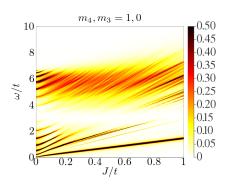


Figure 9: Interactions: ON

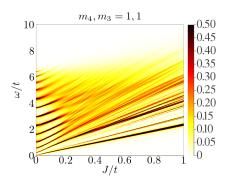


Figure 10: Interactions: ON

## ${\bf 5}\quad {\bf Double\ hop-non\text{-}inter}$

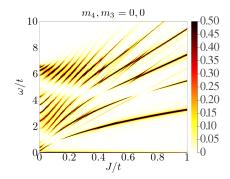


Figure 11: Interactions: OFF

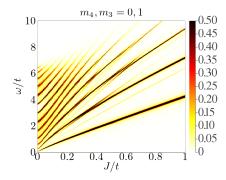


Figure 12: Interactions: OFF

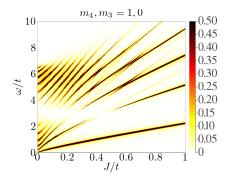


Figure 13: Interactions: OFF

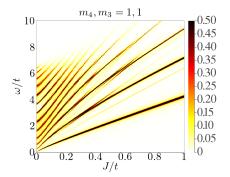


Figure 14: Interactions: OFF

# Acknowledgements

We kindly acknowledge support by the (Polish) National Science Centre (NCN, Poland) under Projects No. 2016/22/E/ST3/00560 (PW and KW), 2016/23/B/ST3/00839 (KW). The calculations were performed at the ICM cluster.