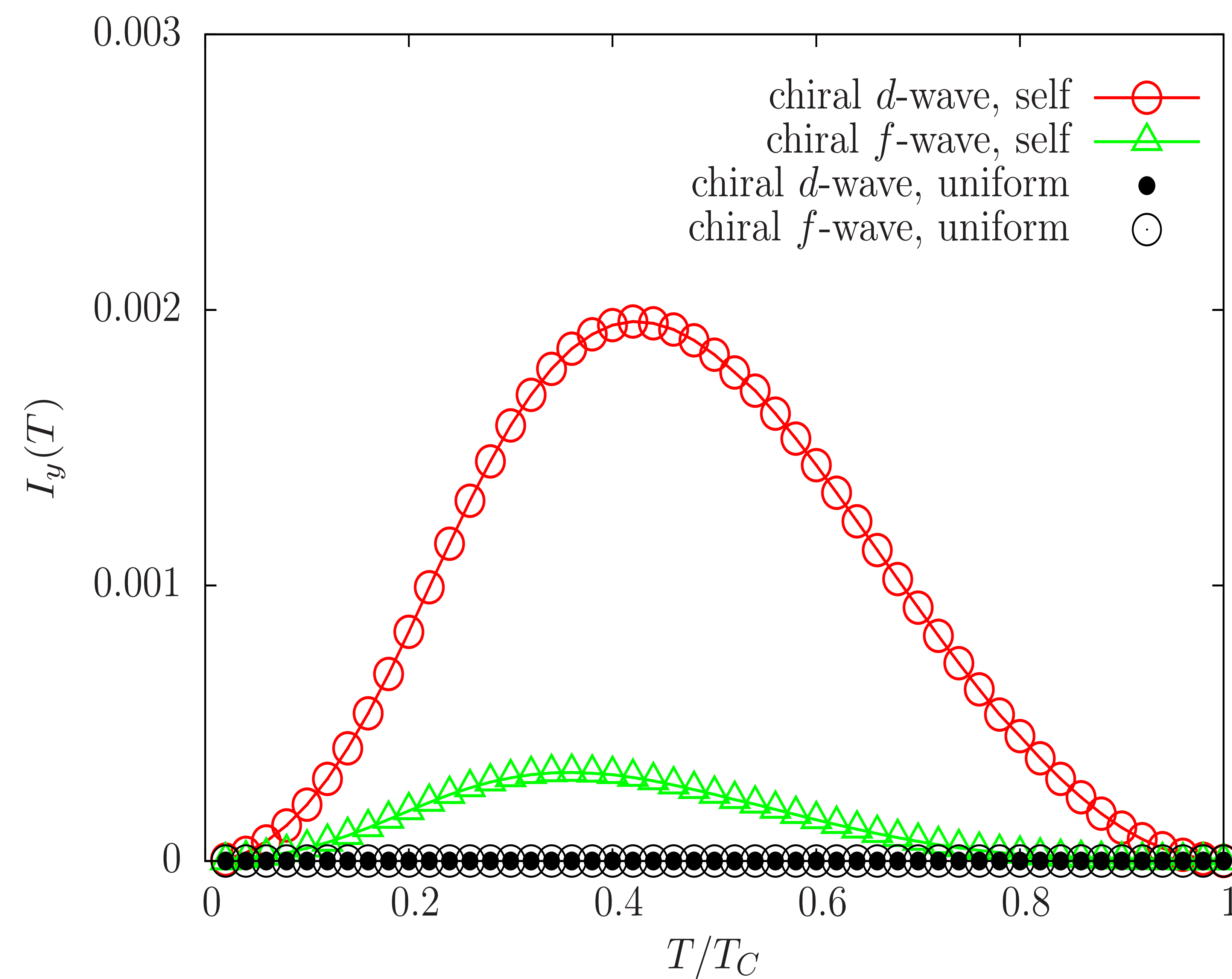


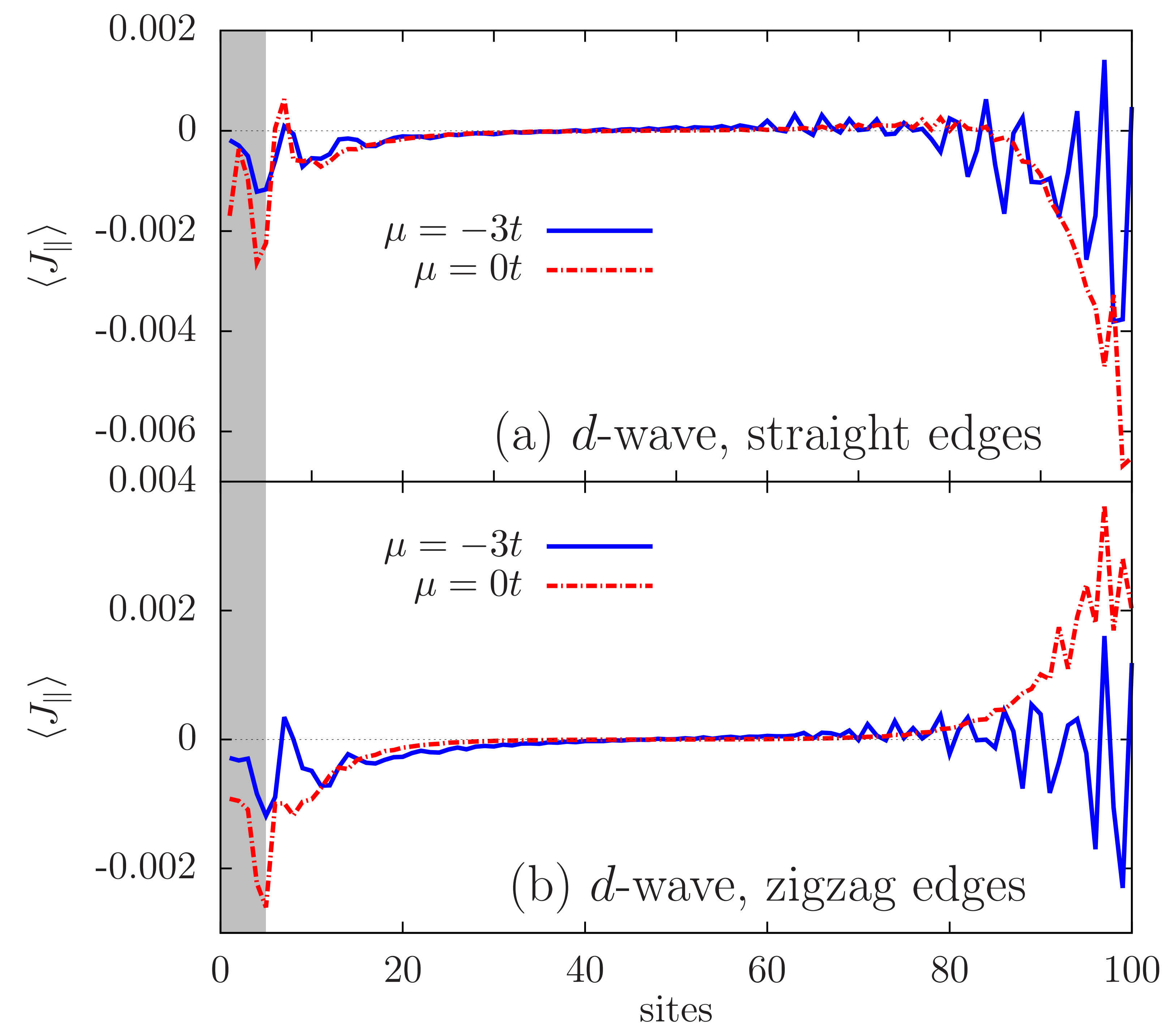
Finite temperature effect

We find for higher chirality (d - or f -wave) superconductors the current can be maximized at finite temperature, near $T_c/2$.



Rough surface effect

Surface roughness can reverse the direction of the current for the chiral d -wave case and we study what conditions are necessary for this effect and why.



[1] X. Wang, Z. Wang, and C. Kallin, arXiv: 1805.09432

[2] S. Suzuki and Y. Asano, Phys. Rev. B **94**, 155302 (2016)