



## JOINT WORK

We consider a system of two interacting, ultracold atoms confined in axially symmetric harmonic trap. Within the pseudopotential approximation, we discussed the solution of the time-independent Schrödinger equation and the limits of quasi-one- and quasi-two-dimensional geometries [1]. The final aim is to describe the influence of incoming dipole-dipole interactions. We especially have in mind the specific case of  $^{52}\text{Cr}$  atoms that own a strong dipole moment in the electronic ground state [2].

## RESULTS

Perturbation theory is necessary. Thereto we will focus on three-dimensional geometries. Further analysis will be possible if additional numerical and analytical techniques are implemented.

## REFERENCES

- [1] Foundations of Physics, Vol. 28, No. 4, 1998
- [2] Appl. Phys. B 77, 756-772(2003)