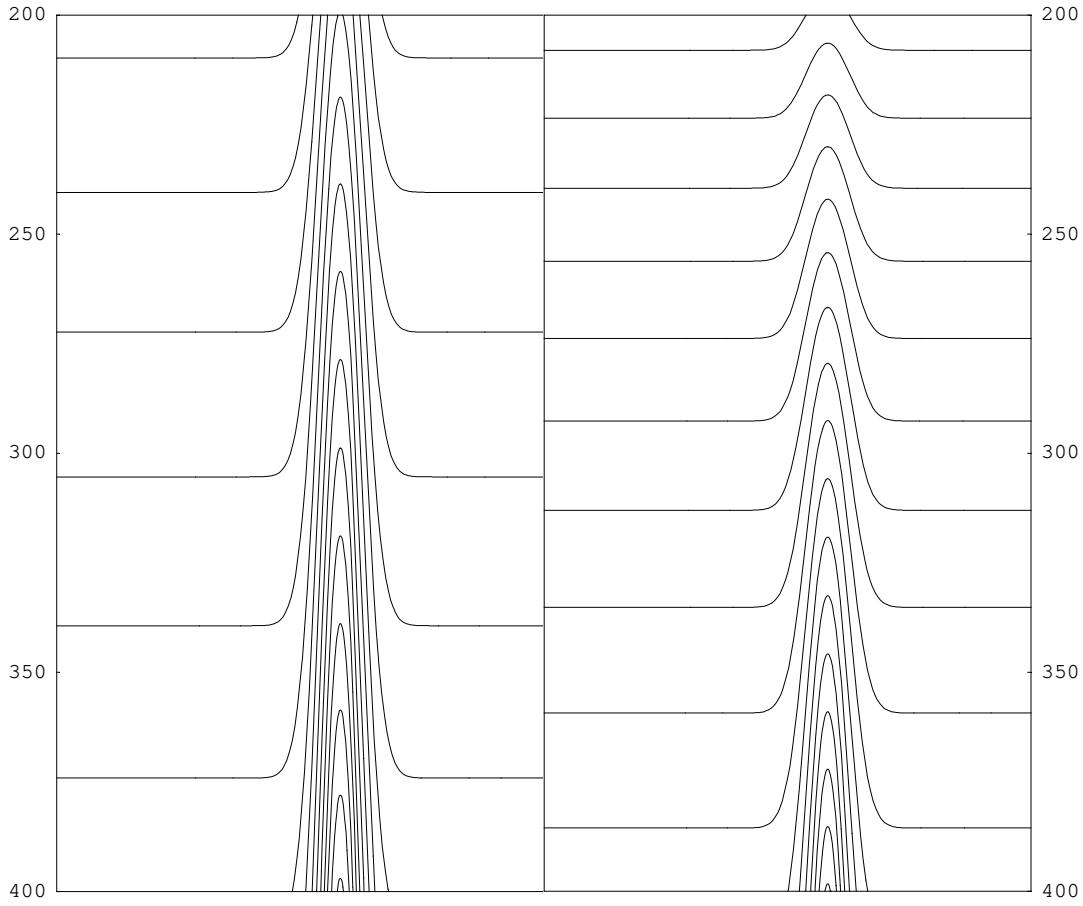L46 oper MF and project L60 H160jjL