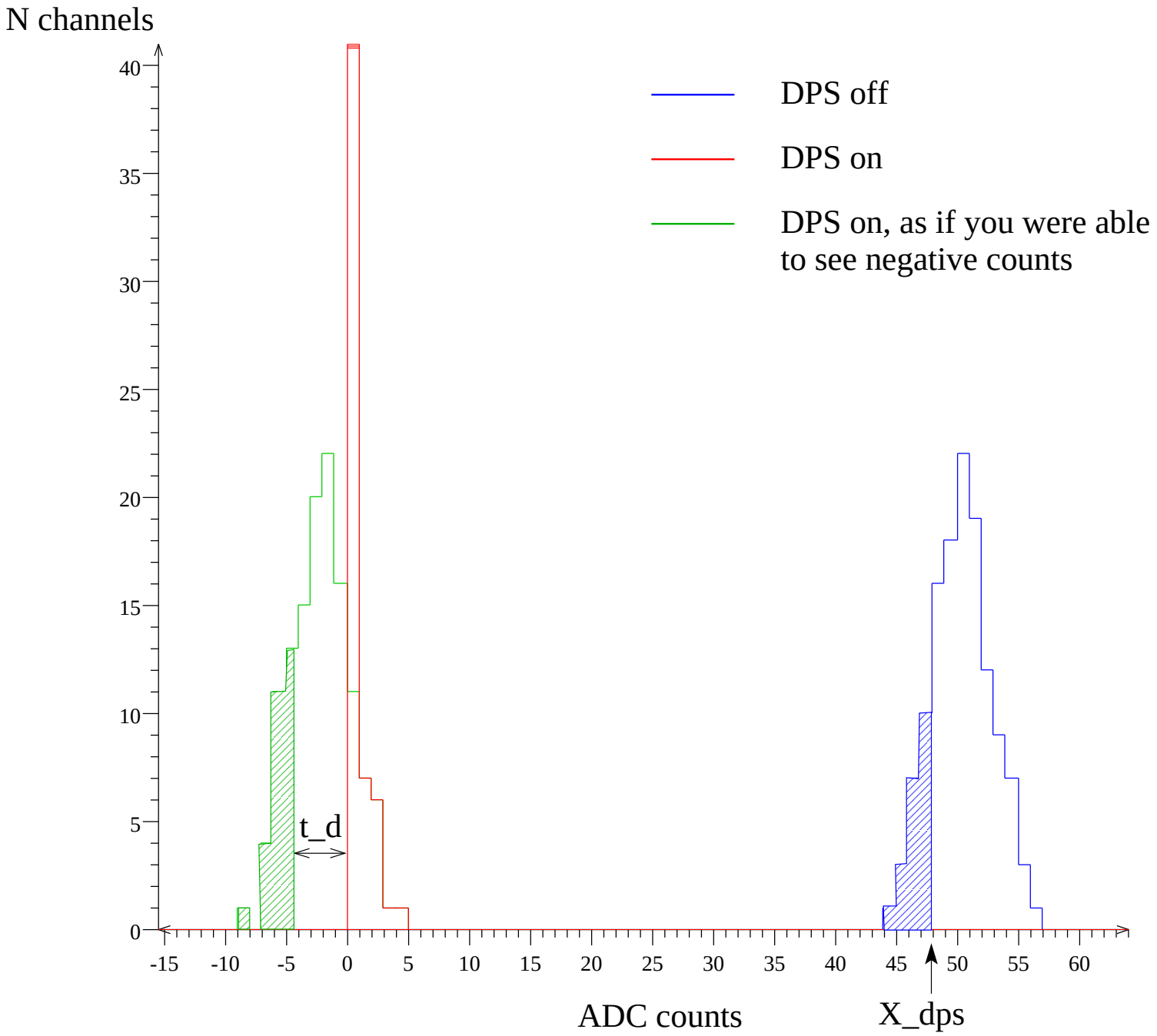Pulse height distributions for one event, one chip