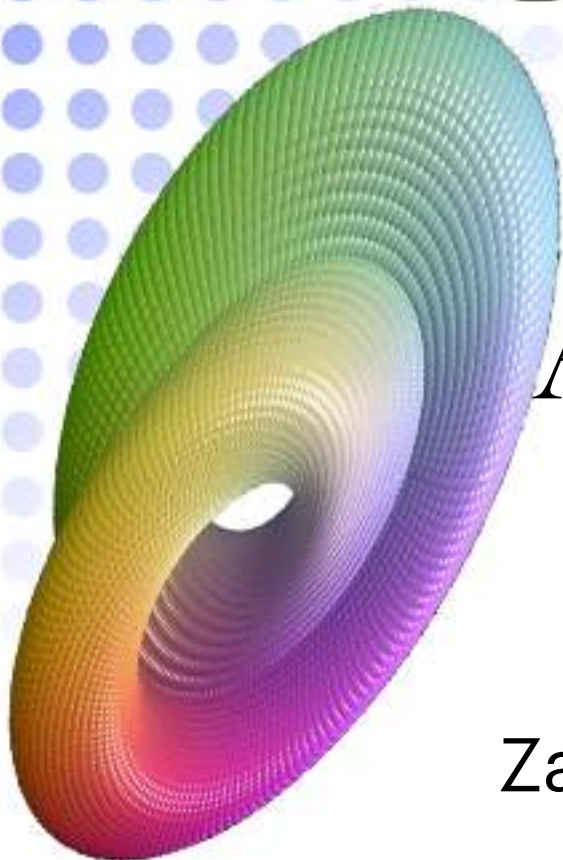


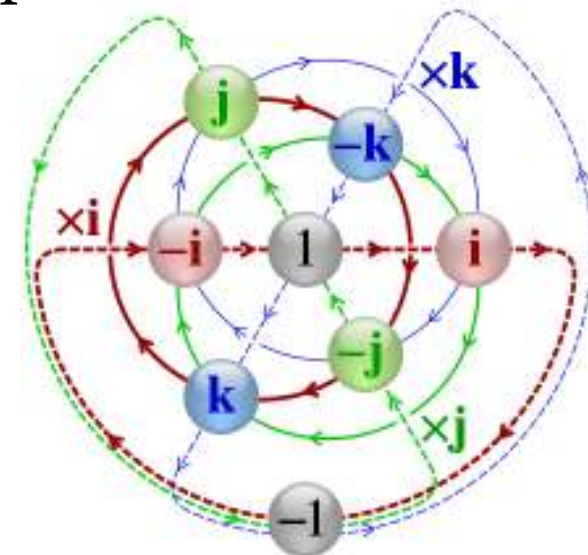
# Michigan Math Club

$\times$	1	i	j	k
1	1	i	j	k
i	i	-1	k	-j
j	j	-k	-1	i
k	k	j	-i	-1

Thursday at 4pm in EH1360  
Pizza + pop outside afterwards!!



## An introduction to quaternions



Zakaria Zerrouki

12 October 2023

Quaternions are a number system directly extending the complex numbers. This talk will reveal their basic algebraic and geometric properties and emphasize some of their most interesting aspects. Only a knowledge of complex numbers, classical vector algebra and functions of one variable (excluding differentiation and integration) are assumed.

