

# Line-defect formation of nematic liquid crystal in cardiac tissue

1,\* A 2

<sup>1</sup>Department of Applied Mathematics, University of Colorado, Boulder, Colorado 80309, USA

<sup>2</sup>Department of Physics and Center for Interdisciplinary Research on Complex Systems, Northeastern University, Boston, Massachusetts 02115, USA

2008; 6 2008; 30 2009







$$D^{n+1} = f T D^n,$$

$$D^{1/2} = f T D,$$

$$= 0,$$

$$a^x, t e^{-t} r,$$

$$r, R r,$$

$$n =$$

E . 3

$L=2$   $r_i$  20,25  
 17  
 $a^x, jT / a^x, 0$   $j$   $Tj+$   
 $F$   
 $a e^{jT}$   
 20,  
 $e^{jT} 1 - i/2$   $k = 1$   $iwk$   $2k^2 f' I + i/2$   $k$ , 4  
 $k = 1/L + T/L$   
 $f I$   $c I$   $A_2 D$   $C$   
 20,  
 $2/c$   $D^{1/2}$  20,  
 $F_i$  5

$T,$   
 $r_i$   
 $C$   
 20,  
 $r_e=18$   
 $r_i=0.72$   
 $A$   
 $F_t$   
 $62.1$   $6-467.9$   $22.1$   $311.6$   $-31.7$   $/F_2$