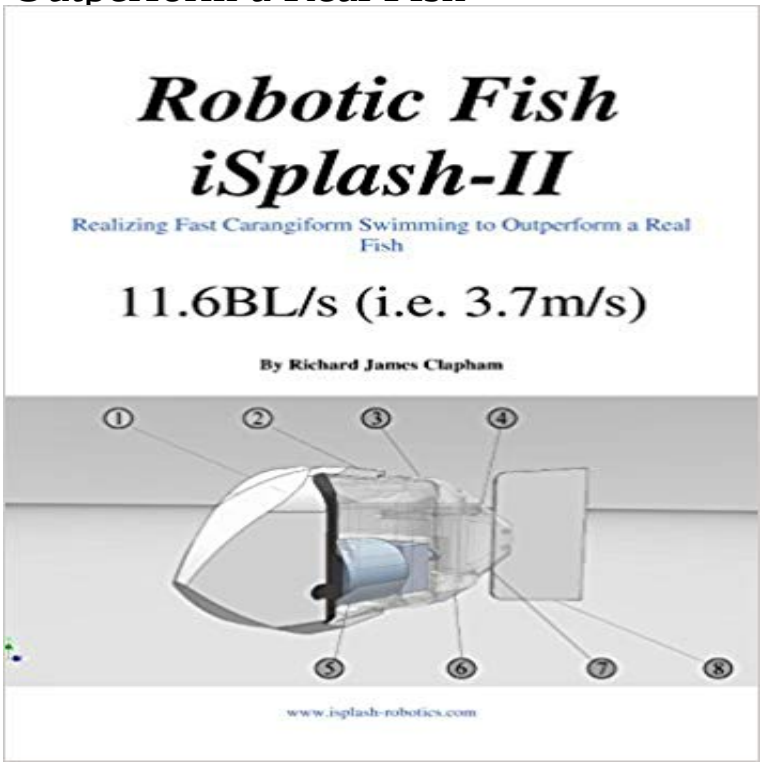
Robotic Fish iSplash-II: Realizing Fast Carangiform Swimming to Outperform a Real Fish



Robotic Fish iSplash-II Realizing Fast Carangiform Swimming to Outperform a Real Fish By Richard James Clapham Abstract. This book introduces a new robotic fish, iSplash-II, capable of outperforming real Carangiform fish in terms of average maximum velocity (measured in body lengths/ second) and endurance, the duration that top speed is maintained. A new fabrication technique and mechanical drive system were developed, effectively transmitting large forces at high frequencies to obtain high-speed propulsion. The lateral and thrust forces were optimized around the center of mass, generating accurate kinematic displacements and greatly increasing the magnitude of added mass. The prototype, with a length of 32cm has significantly increased the linear swimming speed of robotic fish, achieving consistent untethered stabilized swimming speeds of 11.6BL/s (i.e. 3.7m/s), with a frequency of 20Hz. Keywords: High speed robotic fish Carangiform swimming Full-Body length Swimming speed Maximum velocity.

Abstract-This paper introduces a new robotic fish, iSplash-II, capable of outperforming real carangiform fish in terms of average maximumAbstract-This paper introduces a new robotic fish, iSplash-II, capable of outperforming real carangiform fish in terms of average maximum velocity (measured inThis paper introduces a new robotic fish, iSplash-II, capable of outperforming real carangiform fish in terms of average maximum velocity (measured in body.Robotic Fish iSplash-II: Realizing Fast Carangiform Swimming to Outperform a Real Fish eBook: Richard James Clapham: : Kindle Store.AbstractThis paper introduces a new robotic fish, iSplash-II, capable of outperforming real carangiform fish in terms of average maximum velocity (measured inRobotic Fish iSplash-II: Realizing Fast Carangiform Swimming to Outperform a Real Fish (English Edition) eBook: Richard James Clapham: : TiendaAbstractThis paper introduces a new robotic fish, iSplash-II, capable of outperforming real carangiform fish in terms of average maximum velocity (measured inThe Paperback of the Robotic Fish iSplash-II: Realizing Fast Carangiform Swimming to Outperform a Real Fish by Richard James Clapham PhD at Barnes &Robotic Fish iSplash-II: Realizing Fast Carangiform Swimming to Outperform a Real Fish eBook: Richard James Clapham: : Kindle Store. ISplash-II: Realizing fast carangiform swimming to outperform a real fish robotic fish, iSplash-II, capable of outperforming real carangiform fishRobotic Fish iSplash-II: Realizing Fast Carangiform Swimming to Outperform a Real Fish (English Edition) [Kindle edition] by Richard James Clapham. This paper introduces a new robotic fish, iSplash-II, capable of outperforming real carangiform fish in terms of average maximum velocity