

Introduction

\$ PRELOH FDYLWDWLRQ V\ VWHP ZDV FRQVWUXFWHG DW WKH
WKH 8QLYHUVLW\ RI WKH :HVWHUQ &DSHV 8:& SLORW SO
UHVHUYRLU WHPSHUDWXUH JDXJHVW ~~DOGONZYBUDDFDLRQ~~ Y
WKH 8:& GHVLJQ DQ DFRXVWLF OLVWHQLQJ GHYLFH ZDV L
FDYLWDWLRQ YHULILFDWLRQ 7KH 8:& V\ VWHP KDV D N:
IHDWXUHV D K\GUDXOLF ~~FDWHDGXS~~ IJUDG ~~E&WWZDV~~ +S %RWK
VWHHO SLSLQJ WR PD[LPLVH FRUURVLRQ UHVLVWDQFH 7KH
FDSDFLW\ RI DSSUR[LPDWHO\ / ZKHUHDV WKH SLORW SO
H[~~SLFH~~ QW REMHFWLYHV ,Q DGGLWLRQ WKH UHVHUYRLU RI
FRQWURO WKH WHPSHUDWXUH RI WKH ZDWHU

)LJXUH 5HV ~~ELQW~~ ~~KHUF~~ FDYLWDWLRQ V\ VWHP IRU OHDNV DQG

Cavitation fundamentals

)LJXUH \$Q DWWHPSW WR GHPRQVWUDWH V\SKRQLQJ FDYL
DQG WØRWUH EXFNHWV

7KH IXQGDPHQWDOV IRU FDYLWDWLRQ RFFXU XQGHU FHU
0LVVRXUL 8QLYHUVLW\ LQ WKH +LJK %D\ /DERUDWRU\ ZKL
6\SKRQLQJ FDYLWDWLRQ RFFXUV XQGHU FHU\WDUHQHWRXQGD
PP GLDPHWHU SLSH DQG EXFNHWV ZDV XVHG WR GHPRQ
XQGHUVWDQGLQJ RI WKLW FRQFHSW WKH WDVN DW KDQG Z
DQRWKHU ZLWKRXW WKH DGGLWLRQRIQDKPHLEKDWQZFDVHXSXP
DQG EXEEOH IRUPLQJ RFFXUV ZKHQ QDWXUDO FDYLWDWLRQ
WKH EXEEOH IRUPLQJ DW D FHUWDLQ KHLJKW UHVWULFWLF
IROORZV

3 !YB ð 3!JK !YB ð !JK

:KHUH

3 3 UHSUHVHQWV GLIIHUHQW SUHVXUHV DW SRLQWV D
Y Y UHSUHVHQWV WKH YHORFLWLHV DW SRLQWV DQG
K K UHSUHVHQWV WKH KHLJKWV DW SRLQWV DQG

The outcome of the project

7KH FROODERUDWLRQ EHWZHHQ WKH WZR LQVWLWXWLRQV Y
SHUVSHFWLYH 7KH GHYHORSPHQW RI WKH PRELOH FDYLWD
LQLWLDO WHVWLQJ DQG FHUWDOO\RSO\LP\VSXPSRQDSKDFLWV
KDYH EHHQ LGHQWLILHG DQG ZHUH DGGUHVVHG WKURXJK
YDU\LQJ RULILFH VL]HV ,Q DGGLWLRQ OHDNV DQG EORFI
SXPSLQJ HIILFLHQF\

7KH DGDSWDWLRQ RI RULILFH SODWHV LQ K\GURG\QDPLF
FDYLWDWLRQ HIIHFWV \$PRQJVW DOO H[SHULPHQWV WKH
VL]H VR IDU WKDW VKRZHG WKH HGHDO\FCRQJGKWLKFDLVKIVUWFK
RI VHOHFWLQJ DSSURSULDWH RULILFH GLPHQVLRQV WR DFK
SROOXWDQWV *LYHQLWKH OLVWVHG WIDULHGEJHR I WKH RUL
IDFLOLWDWH WKH UDSLQ FDKQJH LQ WKH SUHVXUH GURS
'HQJDOJHDW SHU\HFFVLSYHDELQWLHV RI WKH +& V\VVHP DQG
EH H[SORUHG LQ KLV UHVHDFK DW 8:&

Upcoming activities

7KH PRQWKVRISSHVHGDKK ZD\ IRUZDUG IRU D VWURQJHU
LQVWLWXWLRQV LQ SDUWLFXODU WKH 'HSDUWPHQW RI &KH
WKH &LYLO (QJLQHULQJ 'HSDUWPHQW DW WKH 8QWYHUVLW
DW 80.& LV RQJRLQJ DQG GRFXPHQWHG DORQJ WKHHD\ 7I
UHYLHZHQDO DUH KLJKO\ OLNHO\ EDVHG RQ IXUWKHU FRO

\$GGLWLRQDO UHVHDFK FRXOG H[SORUH WKH HIIHFWV RI Y
DV WKH QXPEHU RI KROHV WR DFFRPPRGDWH WKH VXUIDFH
7KH SDUDPHWHUV RI WKH V\VVHP\DWHG\WDRQJ, 7IDQDQGHVW
RI WKH VHOHFWHG G\HV 9HULI\LQJ WKDW IUHH UDGLFDQV
K\GURJHQ SHUR[LGHV\K\OLQJ\YLV\WHLRQ PHWKRGV

